88-1406

No.

Supreme Court, U.S.
FILED
FEB 21 1989
JOSEPH F. SPANIOL, JR.
CLERK

In The

Supreme Court of the United States

October Term, 1988

INTRA CORPORATION and EAGLE TECHNOLOGIES, INC.

Petitioners,

vs.

HAMAR LASER INSTRUMENTS, INC.,

Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

ALEX RHODES
Attorney of Record
24700 Northwestern Hwy
Suite 412
Southfield, MI 48075
(313) 356-3457
Attorney for Petitioner

DUNMORE PRESS, DETROIT, MICHIGAN

QUESTIONS PRESENTED

The questions presented are:

1. Whether there is a conflict in the circuits on the application of the "clearly erroneous" rule of Rule of Procedure 52(a) to ultimate facts, which are determined by the application of law to subsidiary facts.

2. Whether the Court of Appeals for the Federal Circuit, in reviewing the District Court's finding of equivalency in a patent infringement case, nullified the "clearly erroneous" rule of Rule of Procedure 52(a) because it failed to review all of the evidence by explicitly assuming that the District Court considered all of the evidence in deciding the ultimate fact.

3. Whether a District Court's finding of whether a patent infringement is willful and its imposition of multiple damages under 35 USC 284 should depend on whether the infringer had obtained a legal opinion prior to the infringement.

4. Whether the Judgment that the Petitioners Willfully Infringed U.S. Letters Patent No. 4,483,618 should be reversed.

TABLE OF CONTENTS

Page

Questions Presented for Review i

Table of Contents ii

Table of Citations iii

Opinions Below 1

Jurisdiction 2

Statement of the Case 2

The Facts 3

Reasons for Granting the Writ

I. There is a conflict in the Circuits as to whether the "clearly erroneous Rule of Rule of Procedure 52(a) applies to ultimate facts which are determined by the application of law to subsidiary facts 9

II. The Appellate Court incorrectly applied the clearly erroneous" Rule of Rule of Procedure 52(a) 10

III. Whether patent infringement is willful and multiple damages are imposed under 35 U.S.C. 284 should not depend on whether the infringer obtained a contrary formal legal opinion prior to the infringement 11

IV. The Petitioners' Quadra Beam laser alignment target does not infringe the '618 patent 13

Conclusion 13

Contents

Page

TABLE OF CITATIONS

Cases Cited:

ACS Hospital Systems, Inc. v Montefiore Hospital, 732 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984) 9

Central Soya Co. v George A. Hormel, 220 USPQ 490 (Fed. Cir. 1983) 12

Graver Tank Mfg. Co. v The Linde Air Products Company, 339 U.S. 605, 94 L Ed 1097, 70 S Ct 854, 87 USPQ 328 (1950) 11

Intra Corporation and Eagle Technologies, Inc. v Hamar Laser Instruments, Inc., 662 F.Supp 1420, 4 USPQ 2d 1337 (E.D. Mich, 1987) 1

Pullman-Standard, Div. of Pullman, Inc. v Swint et al, 456 U.S. 273 (1982) 9

Taylor and Gaskin, Inc. v Chris-Craft Industries, 732 F.2d 1273 (6th Cir. 1984) 9

Underwriter Devices, Inc. v Morrison-Knudsen Co., 717 F.2d 1380, 1389-90, 219 USPQ 569 (Fed. Cir. 1983) 12

United States v United States Gypsum Co., 333 U.S. 364, 395 (1948) 10

Zenith Corp. v Hazeltine Research, Inc., 395 U.S. 100, 123 (1969) 10

Contents

Page

Statutes Cited

28 U.S.C. 1254(1) 2

28 U.S.C. 2201 4

35 U.S.C. 103 8

35 U.S.C. 284 11

Federal Rules of Civil Procedure:

Rule 52(a) 9, 10

Federal Regulations:

21 C.F.R. 1040 3

Other Authorities Cited:

Baechtold, R.L., More on the Presumption of Moral Regularity, Journal of the Patent Office Society, January, 1988 12

APPENDIX

Appendix A -- Memorandum Opinion and Order of the District Court dated June 17, 1987 1

Appendix B - CAFC Panel's Decision dated October 7, 1988 55

Appendix C - CAFC Order Denying Petitioners' Petition for Rehearing dated November 21, 1988 67

No.

In The

Supreme Court of the United States

October Term, 1988

INTRA CORPORATION and EAGLE TECHNOLOGIES, INC.

Petitioners,

vs.

HAMAR LASER INSTRUMENTS, INC.,

Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

The Petitioners respectfully pray that a Writ of Certiorari issue to review a decision of a Panel of the Court of Appeals for the Federal Circuit affirming a judgment which held that the Petitioners infringed U.S. Letters Patent No. 4,483,618 and that the infringement was willful.

OPINIONS BELOW

The Order and Opinion of the district court is reported in 662 F Supp 1420, 4 USPQ 2d 1337 (E.D. Mich, 1987)

and is in Appendix A. The unpublished decision of the Panel of the Court of Appeals for the Federal Circuit is in Appendix B.

JURISDICTION

The Order of the Court of Appeals for the Federal Circuit denying the Petitioners' request for a rehearing of the Panel's decision which affirmed the judgment of the district court was entered on November 21, 1988. The unpublished decision is in Appendix C.

The jurisdiction of this Court is invoked under 28 U.S.C. Sec 1254(1).

There are no parent companies, subsidiaries or affiliates of the Petitioners.

STATEMENT OF THE CASE

After receiving two threatening letters, the Petitioners filed a complaint for a Declaratory Judgment in the Eastern District of Michigan, requesting a declaration that U.S. Patent Nos. 4,483,618 ('618) and 4,566,202 ('202) were invalid or in the alternative, did not apply to the Petitioners' machine tool laser alignment system.

The Court, without a jury, applied the "doctrine of equivalents" and held that the '202 patent was invalid and the '618 patent infringed. After holding that the Petitoners infringed the '618 patent, the trial court made a finding of fact that the Petitioners failed to obtain a "legal opinion" prior to the sales and as a matter of law a that the infringement was willful. The Court assesses the Petitoners multiple damages.

The Petitioners appealed on the grounds that both the judgment of infringement and of willfull infringement were contrary to the facts. The Petitioners argued that

the Court had made clearly erroneous errors of fact and overlooked material facts that went to the issue of infringement. A CAFC panel held that the Petitioners could not establish that the district court's findings were "clearly erroneous" merely by pointing to evidence that might support a contrary finding; that there was nothing in the record to indicate that the trial court did not consider all of the evidence and that the "clearly erroneous" rule of Rule 52(a) Rules of Federal Procedure did not entitle the CAFC to reverse the trial court even if it was convinced that it would have decided the case differently.

FACTS

This case involves the application of industrial laser for machine tool alignment. In 1984, the Respondent sold the Petitioners a laser emitter and photocell target for use in a laser alignment system for a Ford Motor Company Kingsbury transfer line. The Kingsbury transfer line was an automated cluster of machining stations and work stations wherein successive machining operations were performed on engine ignition distributor housings as they were automatically transported from station to station.

The equipment which the Respondent supplied to the Petitioners was defective, falsely marked as covered by U.S. and foreign patents and violated the Federal Food and Drug Administration laser safety regulation 21 C.F.R. 1040. The Petitioners engaged a laser consultant, Gordon Brown ("Brown") and with Brown's services made new equipment and completed the order.

On November 20, 1984, the '618 patent, entitled, "Laser Measurement System, Virtual Detector Probe and Carriage Yaw Compensator", issued to the Respondent's President, Martin R. Hamar.

On January 11, 1985, the Petitioners' patent attorney, unaware of the '618 patent, sent sketches and a description of the Kingsbury alignment system laser and target to his Washington, D.C. associate with a request for a patent search in the U.S. Patent and Trademark Office. On March 22, 1985 his Washington associate forwarded the search results. There were no Hamar patents in the search results.

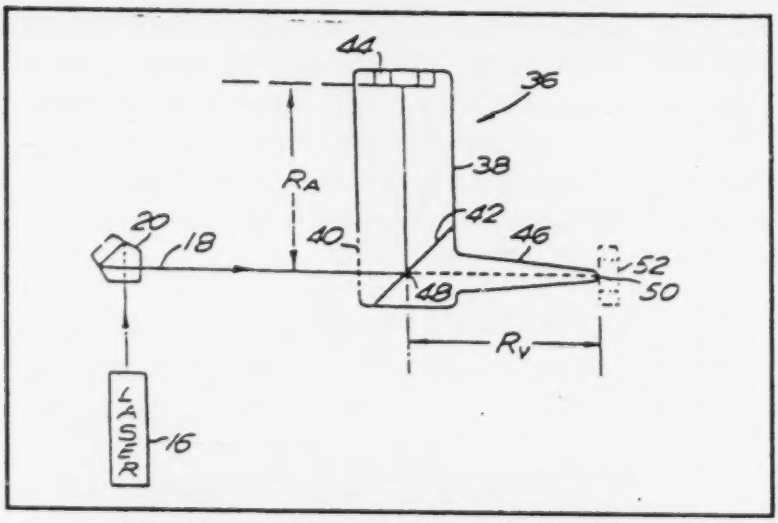
At or about the same time that the Petitioners' attorney requested the patent search, the Petitioners decided to manufacture and sell a laser alignment system for machine tool alignment. With Brown's services and a substantial investment, the Petitioners designed and developed an improved laser alignment system ("Quadra Beam") for machine tool alignment. The Quadra Beam System had a number of improvements over the Respondent's system.

On January 28, 1986 the '202 patent, entitled, "Laser Apparatus for Effectively Projecting the Axis of Rotation of a Rotating Tool Holder" issued to Martin R. Hamar.

On April 24, 1986, just when the Petitioners were to begin marketing the Quadra Beam laser alignment system, the Respondent's patent attorney sent the Petitioners' President, John A. Battista ("Battista"), a letter with enclosed copies of the '618 and '202 patents. The letter alleged that the Ford Kingsbury system was subject to the two patents. The day after the letter arrived, a Sunday, Battista met with his patent attorney, discussed the letter and reviewed the patents. Six days later, the Petitioners' patent attorney replied in writing, denying wrongdoing, and informing the Respondent's attorney that Petitioners planned to market laser alignment systems.

On June, 2, 1986, Respondent's patent attorney sent Petitioners' patent attorney a threatening letter. The Petitioners discontinued Quadra Beam sales and two days later on June 4, 1986, filed an action under 28 USC 2201 requesting a declaration that the '618 and '202 patents were invalid, or in the alternative, did not apply to the Petitioners' goods.

The '618 patent discloses an apparatus and method for measuring distances between points. The measuring apparatus includes a target which is designated in the patent as a "virtual detector probe". The "virtual detector probe" includes a body, a photodetector and pointed probe. The pointed probe is illustrated in the patent as an integral part of the body. The feature which patentably distinguishes the '618 "virtual detector probe" from the prior art is that the end of the "virtual detector probe" is at the same location as the virtual image of the photodetector's center. The distance from the virtual



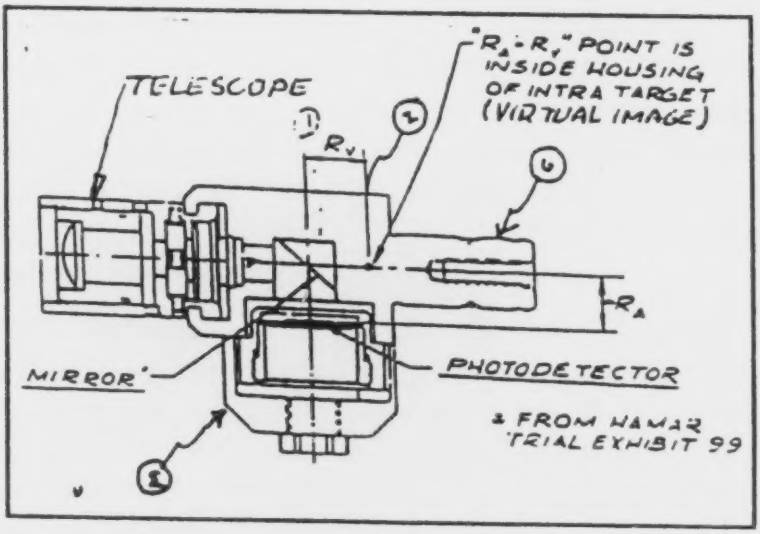
'618 Patent Virtual Detector Probe

image of the photodetector's center to the mirror is equal to the distance of the photodetector's center to the mirror. The specification claims that locating the probe end point at the virtual image of the photodetector's center reduces measurement errors by, in the words of the patent, "compensating for [angular] movement of the probe about point 50" in the drawings, i.e., the point which is touched by the probe.

The Quadra Beam target is an alignment device for aligning machine members, such as, a rotating tool with a part. The Quadra Beam target includes a housing with a cylindrical mounting post at one end of the housing, a photodetector, mirror, optical elements inside of the housing and a telescope (collimator) at the other end of the housing. The telescope is slideably mounted on the housing whereby it can be centrally located or moved off center. The target is mounted directly in the bore of a machine member or the bore of an adaptor fixed to the other member and a cylindrical laser emitter is mounted in a bore of the other member or an adaptor fixed to the other member. The function of the mirror was to enable the Petitioners to reduce the length of the target by positioning the photodetector at the side of the target and reflecting the beam onto the detector. The mirror had no other function.

Machine alignment with lasers and photodetector targets is old in the art. It requires both angular and lateral alignment of two members with respect to each other. The angular alignment is accomplished with the Quadra Beam's target by rotating the member and target with the telescope on the center of the target to square the member with a laser beam. Lateral alignment is accomplished by displacing the target with the telescope

off center to center the target with the incoming laser beam. The position of the end of the target is irrelevant to the alignment.

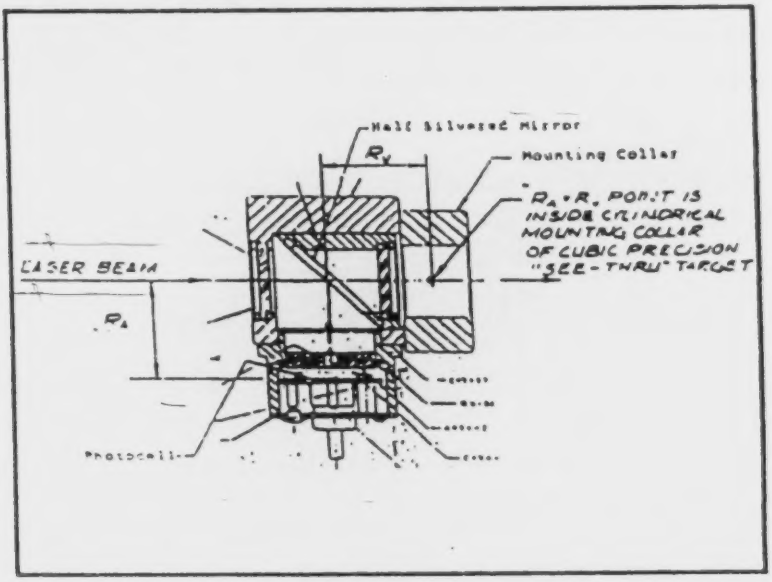


Quadra Beam Target

Since the Quadra Beam target has a mirror, a virtual image exists for every point of the target, with respect to the mirror, including the photodetector's center. However, the position of the virtual image of the photodetector's center in the Quadra Beam target is not an essential element and has no function in the alignment procedure. Indeed, this theoretical point was substantially inside of the housing. As such, it was physically impossible to place the virtual image of the Quadra Beam's photodetector on the point of an object.

The Petitioners introduced into evidence an alignment target ("See Thru Target") as proof that the combination of a mirror and photodetector in an alignment target was old in the art. The "See Thru" mirror had a half silvered ("beam splitter") mirror which split an incoming beam

into one portion which was transmitted without reflection through a hollow cylindrical mounting post and a remainining portion which was reflected onto a photodetector. The "See Thru" target was adapted for mounting a telescope (collimator) to square the target.



"See Thru" Target

Martin R. Hamar misrepresented to the Court that: 1) the '618 target was a machine alignment target, 2) that the end point of the '618 virtual detector probe target was equivalent to a theoretical point inside of the Petitioners' target, 3) that the "See Through" target was not equivalent, and that with his invention machine alignment could be accomplished with a misaligned target, and the Court believed him!

The trial court confused the alignment of the target with the alignment with the machine member. The Court believed that machine alignment could be accomplished with a misaligned target. The Court held that the Quadra

Beam target was equivalent to the '618 patent "virtual detector probe" by finding equivalence between the physical end point of the '618 probe and a theoretical point inside the body of the Quadra Beam target

During the trial, Martin R. Hamar admitted knowingly marking his goods with the words "U.S. and Foreign Patents and Patents Pending" before any patents applicable to the goods issued. He also admitted shipping goods which violated the FDA laser safety regulations and that his latest target did not have a mirror.

After its finding of '618 patent infringement, notwithstanding the close and ongoing relationship of the Petitioners with their patent attorney, the trial court made a finding of fact that the Petitioners "failed to obtain a legal opinion" prior to their sales of the alleged infringing devices and assessed the Petitioners multiple damages.

In addition to holding the '202 patent invalid under 35 USC 103, the Court also held that Martin R. Hamar had engaged in "inequitable conduct" by withholding material references from the patent examiner during the prosecution of the '202 patent.

REASONS FOR GRANTING THE WRIT

I.

THERE IS A CONFLICT IN THE CIRCUITS AS TO WHETHER THE "CLEARLY ERRONEOUS" RULE OF RULE OF PROCEDURE 52(a) APPLIES TO ULTIMATE FACTS WHICH ARE DETERMINED BY THE APPLICATION OF LAW TO SUBSIDIARY FACTS

There is confusion in the circuits as to whether the "clearly erroneous" rule of Rule of Procedure 52(a) prohibits an appellate court from de novo review of ultimate facts based on documentary evidence. In this case the Court of Appeals held that an appellate court is not entitled to "reweigh the evidence and decide the factual disputes de novo, which is not the function of an appellate court." However, the appellate court failed to distinguish between findings of subsidiary facts and a finding of the ultimate fact of "equivalency" which is the application of law to the subsidiary facts, and as such not subject to the "clearly erroneous" rule of Rule of Procedure 52(a).

By way of example, in Taylor and Gaskin, Inc., v Chris-Craft Industries, 732 F.2d 1273 (6th Cir. 1984), the Sixth Circuit Court of Appeals held that an appellate court "may review de novo findings of ultimate facts which result from the application of legal principles to subsidiary factual determinations." In contrast, the Court of Appeals for the Federal Circuit held in ACS Hospital Systems, Inc. v Montefiore Hospital, 732 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984), that its ultimate finding as well as the subsidiary findings upon which the ultimate finding necessarily depends, is subject to review on appeal under the clearly erroneous standard of Fed.R.Civ.P. 52(a).

The confusion between the circuits follows this Court's decision in Pullman-Standard, Div. of Pullman, Inc. v Swint et al., 456 U.S. 273 (1982) wherein this Court said Rule 52(a) "does not divide findings of fact into those that deal with 'ultimate' and those that deal with 'subsidiary' facts." This Court should now provide the lower courts with guidance in the application of the "clearly erroneous"

rule to ultimate facts which are the result of the application of rules of law to subsidiary facts.

II.

THE APPELLATE COURT INCORRECTLY APPLIED THE "CLEARLY ERRONEOUS" RULE OF RULE OF PROCEDURE 52(a)

Although Rule 52(a) of the Federal Rules of Civil Procedure provides that on review appellate courts should not set aside trial courts' factual findings unless such findings are "clearly erroneous" if after reviewing the entire evidence on record " an appellate court is left with a definite and firm conviction that a mistake has been committed." United States v United States Gypsum Co., 333 U.S. 364, 395 (1948). the "clearly erroneous" Rule mandates that the findings should be set aside.

Moreover, the appellate court has the responsibility to look at all of the evidence and determine if, on the record as a whole, the trial court has erred. Id. Although the Rule 52(a) standard of review does not allow the appellate court to find facts de novo, the appellate court cannot determine whether the trial court has erred unless it reviews the record as a whole. Zenith Corp. v Hazeltine Research, Inc., 395 U.S. 100, 123 (1969).

In this case, by failing to review all of the facts, the appellate court failed to appreciate that the trial court assumed the material facts which led to an inescapable erroneous conclusion of law. What the trial court did was to construe the claims of the '618 patent to read on the alleged infringing device by assuming that the physical end point of the '618 patent "virtual detector probe" was the equivalent of a theoretical point inside of the body of

the Petitioners' laser alignment target. The appellate court was unable to detect this error of material fact because the appellate court did not review the entire record.

In Graver Tank Mfg. Co. v The Linde Air Products Company, 339 US 605, 94 L Ed 1097, 70 S Ct 854, 85 USPQ 328 (1950), Justice Jackson said:

"What constitutes equivalency must be determined against the context of the patent, the prior art, and the particular circumstances of the case. Equivalence in the patent law, is not the prisoner of a formula and is not to be considered in a vacuum."

Justice Jackson also said:

"A finding of equivalence is a determination of fact. Proof can be made in any form: through testimony of experts or others versed in the technology; by documents, including texts and treatises,; and, of course, by disclosures of the prior art."

Conversely, the negative of equivalence requires the same factual determination. Thus, whether the Petitioners' alignment target infringed the '618 patent requires a review of all of the facts rather than a decision based on an assumption that the district court considered all of the facts.

III.

WHETHER PATENT INFRINGEMENT IS WILLFUL AND MULTIPLE DAMAGES ARE IMPOSED UNDER 35 U.S.C. 284 SHOULD NOT DEPEND ON WHETHER THE INFRINGER OBTAINED A

CONTRARY FORMAL LEGAL OPINION PRIOR TO THE INFRINGEMENT

Although Section 284 of Title 35 U.S.C. provides for enhanced damages for patent infringement there is no statutory requirement that the infringer failed to obtain a legal opinion prior to the acts of infringement. Shortly after it began hearing cases, however, the CAFC ruled that an accused infringer has an affirmative duty to obtain a detailed, competent legal opinion from counsel before the alleged infringement. See Underwriter Devices Inc. v. Morrison-Knudsen Co., 717 F.2d 1380, 1389-90, 219 U.S.P.Q. 569 (Fed. Cir. 1983) and Central Soya Co. v George A. Hormel, 220 U.S.P.Q. 490 (Fed. Cir. 1983). This position has been criticized as a mechanical rule which has resulted, as in the instant case, in unjust decisions and inconsistent rulings by the courts. See Baechtold, R.L., More on the Presumption of Moral Regularity, Journal of the Patent Office Society, January, 1988.

There is also concern that the CAFC prefers "to reducing issues to something closer to a mathematical formula which, when you plug in directly observable facts, automatically gives the right answer every time." Baechtold, R.L., Supra.

In this case the Petitioners had a close ongoing relationship with a patent attorney who obtained a patent search which did not disclose the subject patent, reviewed the subject patent with the Petitioners the day after the Petitioners became aware of the patent and who filed an action for a declaration that the patent was either invalid or did not apply.

What is most inequitable is that the trial court awarded enhanced damages to an admitted false marker of unpatented goods, a seller of goods which violated goverment safety regulations, and a person judged by the trial court as engaging in inequitable conduct before the U.S. Patent and Trademark Office during the procurement of the '202 patent which the court held to be invalid.

This Court should overrule the CAFC "legal opinion" standard and reverse the lower court's judgment that the infringement of the '618 patent was willful.

IV.

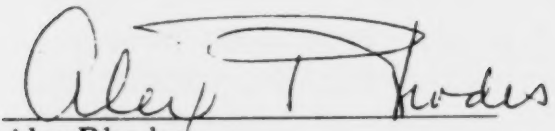
THE PETITIONERS' QUADRA BEAM LASER ALIGNMENT TARGET DOES NOT INFRINGE THE '618 PATENT

The trial court misunderstood the technology and made erroneous findings of subsidiary and ultimate facts which the appellate court merely accepted without applying the proper standard of review. Consequently, the Petitioners have been held liable for infringing a patent by practicing that which is old in the art and to which the claims of the '618 patent do not apply. This Court should review the lower court's finding of the "ultimate" fact of equivalence and reverse the lower court's judgment of '618 patent infringement.

CONCLUSION

For the foregoing reasons, the Petition should be granted.

Respectfully submitted,



Alex Rhodes
Attorney for Petitioners
24700 Northwestern Highway
Suite 412
Southfield, Michigan 48075
(313) 356-3457

Appendix A

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

INTRA CORPORATION and
EAGLE TECHNOLOGIES, INC.,

Plaintiffs,

vs. NO. 86-CV-2414-DT

HAMAR LASER INSTRUMENTS, INC. HON. GEORGE E. WOODS

Defendant.

_____/

MEMORANDUM OPINION AND ORDER

AT A SESSION of said Court, held in the United States Courthouse, in the City of Detroit, State of Michigan, on the 17th day of June, 1987.

PRESENT: THE HONORABLE GEORGE E. WOODS
United States District Judge

Plaintiffs Intra Corporation and Eagle Technologies, Inc. (hereinafter collectively referred to as "Intra") seek a declaratory judgment that two patents issued to Martin R. Hamar, president of defendant Hamar Laser Instruments, Inc. ("Hamar"), are invalid, unenforceable, and not infringed by Intra's laser

alignment system. Intra alleges that the subject matter of both patents would have been obvious at the time they were made to a person having ordinary skill in the art of machine alignment technology. Intra further alleges that Hamar engaged in inequitable conduct in the Patent Office, falsely marked unpatented equipment, and breached an express warranty by selling an alignment system that was unfit for its intended use. Hamar, on the other hand, claims that Intra willfully infringed both patents by disassembling its laser alignment system and using the information obtained to manufacture and sell infringing laser alignment systems.

The Court, having conducted a trial and having heard arguments by counsel, submits the following findings of fact and conclusions of law:

A. General Findings

1. Intra is a Michigan corporation with its principal place of business in Westland, Michigan.

2. Eagle is a Michigan corporation with its principal place of business in Westland, Michigan.

3. Hamar is a Connecticut corporation with its principal place of business in Wilton, Connecticut.

4. Intra has been in existence for approximately ten years.

5. The primary business activity of Intra is the design and manufacture of mechanical and electronic gauges and gauging systems for the automotive, aircraft, and defense industries.

6. Eagle was incorporated by the owners of Intra in May, 1985, for the purpose of designing, developing, and selling non-contact gauging systems.

7. Hamar has been in existence for approximately twenty years.

8. The exclusive business activity of Hamar has been the design, manufacture, and sale of laser alignment systems.

9. Martin R. Hamar, the president of Hamar, has had several patents issue, including: U.S. Patent No. 3,902,810; U.S. Patent No. 4,045,129; U.S. Patent No. 4,297,031; U.S. Patent No. 4,382,680; U.S. Patent No. 4,483,618; and U.S. Patent No. 4,566,202.

B. The Patents in Suit

10. Hamar is the owner of the two patents in suit, namely, U.S. Patent No. 4,566,202 (the '202 patent) and U.S. Patent No. 4,483,618 (the '618 patent).

11. The '202 patent covers a laser apparatus for projecting the axis of rotation of a rotating tool holder.

12. The '618 patent covers an apparatus and method for determining whether the axis of a laser beam is passing through a desired measurement point.

1. The '202 Patent

13. United States Patent Application Serial No. 588,624 was filed by Hamar on December 6, 1983, and issued as U.S. Patent No. 4,566,202 on January 28, 1986.

14. Martin R. Hamar conceived of the inventions claimed in the '202 patent during January of 1983.

15. Hamar acknowledged in the application that

> Laser alignment systems have been developed which have many uses including the alignment of parts for assembiing machines such as turbines. Currently systems of laser beams and targets are available to facilitate the alignment of parts along an axis as well as assessment and correction of pitch and yaw. . . . Despite the many very desireable [sic] features of the available laser or mechanical alignment devices or techniques, none have been able to efficiently and accurately enable true projection of an axis of rotation and/or quick accurate alignment of a work piece with an axis of rotation.

16. The application as filed included sixteen (16) apparatus claims and one (1) method claim.

17. An Information Disclosure Statement, filed with the application, revealed four patents -- all of which had been issued to Martin R. Hamar; U.S. Patent No, 4,045,129; U.S. Patent No. 4,297,031; U.S. Patent No. 3,902,810; and U.S. Patent No. 4,382,680.

18. U.S. Patent No, 3,902,810 was the most relevant of the patents disclosed to the Patent Examiner. It showed the combination of a laser emitter and a rotatably mounted electronic target, made up of four photocells. The target produces electrical output signals used to identify the location of points at which the laser beam strikes the target. The laser emitter and target aligns members along a nonrotating axis.

19. None of the four patents listed in the disclosure statement showed a laser adapted for mounting

to a rotating member, or suggested the combination of a laser adaped to be mounted in a rotating member and a photocell target. There was no illustration of a photocell target in the application. The word "photocell" was not included in the application as originally filed. Moreover, none of the four disclosed patents related to the alignment of machine tools.

20. The application was classified in Class 33 of U.S. Patents and assigned to Primary Examiner Martin in Group Art Unit 246.

21. On February 8, 1984, Examiner Martin in his initial office action rejected all seventeen (17) claims. According to the Examiner:

> 2. Claims 1-16 and 17 are rejected under 35 U.S.C. 103 as being unpatentable over Moller [U.S. Patent No. 2,146,906] or Raiha [U.S. Patent No. 4,438,567] in view of Eggenschwyler [U.S. Patent No. 3,801,205]. Moller or Raiha each discloses a projection device which is mounted in the chuck of a machine tool. The main difference between the subject matter sought to be patented and Miller or Raiha is the type of light. It would not be patentable to substitute for [the] light sources of Moller or Raiha, the common expedient of a laser as in Eggenschwyler, since such a substitution would be obvious to one having ordinary skill in this art. The manner of using recited in lines 17-22 of independent claim 1, and lines 9-13 of independent claim 9 cannot be relied upon to patentably distinguish the invention over prior art which shows the structure to be obvious. In regard to claims 4, 15, and 16, the selection of

> the type of laser clearly falls within the ordinary skill of a person working in the art; and besides produces nothing unobvious in the combination. Also, in regard to claims 5, 6, and 7 the selection of the type of power supply falls within the skill of an ordinary person working in this art. In regard to claim 17, the recited steps do not define anything unobvious over the prior art.
>
> 3. Claim 17 is rejected under 35 U.S.C. 103 as being unpatentable over Griffin [U.S. Patent No. 2,557,029]. Griffin discloses an optical centering gauge of using anticipation the recited steps. The structure of the elements used in performing the method cannot be relied upon to patentably distinguish the method over Griffin.

Hamar's attorney did not contest the above assertions of the Examiner.

22. On May 2, 1985, Hamar's attorney and Martin Hamar conducted an interview with Examiner Martin in the U.S. Patent and Trademark Office. During the interview, Martin Hamer demonstrated the Hamar spindle laser apparatus. The Examiner's record of the interview indicates that an agreement was reached that "Claims which define the target 'T 204' in combination with the laser would be more favorably received."

23. Following the interview, Hamer's attorney filed an amendment in which independent claims 1 and 9 were amended to add the element of a photocell target. Claim 17 was cancelled. Two target drawings from Hamar's earlier U.S. Patent No. 3,902,810 were added to more elaborately describe the Hamar T-204 target described in the original application. Minor amendments

to the specifications also were entered to reference a photocell target and read-out meter. No additional prior art was added into the record. All of the amended claims were allowed.

ii. The '618 Patent

24. United States Patent Application Serial No. 381,078 was filed by Hamar on May 24, 1982, and issued at U.S. Patent No. 4,483,618 on November 24, 1984.

25. The patent application as filed, contained 23 claims.

26. On March 14, 1983, Martin Hamer through his attorneys filed a prior art statement with the U.S. Patent and Trademark Office, disclosing three of Hamar's earlier patents: U.S. Patent No. 3,902,810; U.S. Patent No. 4,045,129; and U.S. Patent No. 4,294,031.

27. On February 29, 1984, the U.S. Patent and Trademark Office issued its first office action in Application Serial No. 381,078. Claims 19 and 20 were allowed as filed. Claims 10 and 16 were objected to as containing allowable subject matter but being dependent from a rejected base claim. Claims 21-23 were rejected under 35 U.S.C. Sec. 102 as being anticipated by U.S. Patent No. 3,765,764 to Niss. Claims 1-9, 11-15, and 17-18 were rejected under 35 U.S.C. Sec. 103 as being obvious over U.S. Patent No. 3,902,810 to Hamar, U.S. Patent No. 3,799,674 to Guillet, et al., U.S. Patent No. 3,765,764 to Niss, and U.S. Patent No. 3,824,020 to Pease. The Examiner cited U.S. Patent No. 3,723,013 to Stirland, et al., U.S. Patent No. 3,734,627 to Edwards, and U.S. Patent No. 4,105,339 to Wirtanen as showing relevant

alignment and measurement systems. According to the Examiner:

> It is known to dispose a detector relative to a position to be measured and direct a beam of light along a path to the detector, using the detector to determine the position of the detector relative to the light beam: this is shown by Hamar and Guillet et al. Using this to measure two or more points relative to each other, as in Niss, is obvious. It is notorious in the art that plane mirrors can be used to reflect light from one path to another, Guillet et al and Pease both use plane mirrors for this purpose. In the situation in which it is not convenient to place a detector directly on the location being measured, it is obvious and straight forward to use, a mirror to reflect the light to the detector.

28. On March 16, 1984, Hamar's attorney conducted a personal interview with the U.S. Patent Examiner assigned to application Serial No. 381,078. The Examiner in his interview summary record stated that "Claims setting forth the probe end, mirror, detector, and their relationships, including the equal distance between the mirror and probe end and mirror and detector would appear to distinguish over the art of record."

29. Following the interview, Hamar's attorney amended claims 1-12, 15-19 and 21-23. The amendments limited the claims by requiring an equal distance between the mirror and detector and detector and probe end in order to distinguish the claims over the prior art found by the Examiner. All of the amended claims were allowed.

C. Activities of Intra

Appendix A

30. During 1984, a Ford Motor Company manufacturing plant in Ypsilanti, Michigan, was unable to meet production quotas for finished engine distributor housings. The distributor housings were made from aluminum castings on a Kingsbury transfer line.

31. A Kingsbury transfer line is a production machining line where parts sequentially move from one machining station to another for various machining operations. Transfer line machining requires the precise alignment of each successive spindle mounted tool.

32. At the Kingsbury transfer line at the Ford Ypsilanti plant, aluminum castngs mounted on pallets sequentially passed and were transformed into finished distributor housings.

33. In August of 1984, Bruce Park (hereinafter "Park"), plant engineering manager at the Ford Ypsilanti plant, asked Intra to make proposals for aligning the Kingsbury transfer line.

34. Park identified Hamar as a source of laser alignment equipment for Intra's proposals.

35. After Park requested that Intra make proposals, Intra's general manager, David Duey (hereinafter "Duey") met with John Shewell (hereinafter "Shewell"), a sales representative of Hamar.

36. Shewell gave Duey specification sheets of Hamar's Model 800 Spindle Laser and T-216 Target.

37. Shewell told Duey and Battista to conduct all business with Hamar through him.

38. Intra submitted two proposals to Ford, namely, a first proposal based in part on a laser system,

and a second proposal employing electronic LVDT probes and analog bar columns The proposal stated that

> Applying laser technology for aligning production machine tool spindles is very new and has very little history. Several companies who deal with laser applications were contacted. Only one was found that was developing laser technology for this application. Consequently there is no board [sic] base knowledge to draw from and the possibility of unconsidered problems and cost[s] probably exists.

39. Park selected the laser proposal, notified Intra to proceed, and issued a purchase order with a delivery date of January, 1985.

40. Park's purchase order did not require Intra to use Hamar's laser alignment equipment.

41. Prior to August, 1984, Intra had never designed, manufactured, or sold laser alignment systems.

42. In October, 1984, Intra gave Shewell a $13,430.00 order for Hamar's Model 800 Spindle Laser, Model T-216 4-Axis Target, and related equipment (hereinafter "equipment"). Hamar shipped the equipment to Intra on October 9, 1984.

43. After receiving the equipment, Intra could not get the equipment to function properly, despite using the instruction manual and spending several days working on the equipment.

44. Intra personnel engaged in "minimal" disassembly of the Hamar spindle laser system at that time.

45. Intra made several phone calls to Hamar, but never informed Hamar as to the difficulties it was having with the equipment. Rather, Intra notified Shewell that Hamar's equipment was defective. Shewell, however, refused to give assistance unless Intra paid him a $75.00 per hour consulting fee.

46. Intra refused Shewell's offer, preferring instead to retain the services of a laser consultant, Gordon M. Brown (hereinafter "Brown"), to examine the equipment and make it operational.

47. Brown was unable to make the Hamar equipment work when he arrived at Intra. With the assistance of Intra employees, Brown partially disassembled the Hamar system to enable himself and certain Intra employees to determine the structure of the Hamar system.

48. Brown made numerous changes to the Hamar equipment. As a result of these changes, Intra personnel believed that they had developed a spindle laser alignment system distinguishable from the Hamar system.

49. In the beginning of 1985, Intra instructed its patent attorney to conduct a patent search for a laser alignment system having an emitter and photodetector. The search did not disclose a Hamar patent since the Hamar '202 patent had not yet issued.

50. On or about the first quarter of 1985, Intra began to design and develop its own laser alignment system.

51. On approximately November 10, 1985, Intra completed engineering drawings entitled Intra Corp. #I-2426, which showed a laser emitter and target to be

manufactured by Intra. The I-2426 drawings included the legend "Pat. Pending," suggesting that Intra intended to file a patent application on the system that their search showed to be patentable.

52. The laser emitter shown in the I-2426 drawings and the laser target for use therewith is known as the Quadra-Beam laser emitter and the Quadra-Beam target.

53. Intra's drawings of the Quadra-Beam target includes a nonessential shim near the reflecting prism which corresponds to a nonessential shim found by Intra in the Hamar T-216 target that Intra had disassembled.[1/]

54. Intra invested over $300,000.00 in designing and developing its Quadra-Beam laser alignment system.

55. Unknown to Intra, Hamar obtained possession of the Intra laser alignment system for the Kingsbury transfer line in January, 1986.

56. Hamar kept possession of the Intra Kingsbury alignment system for five months. During that time the equipment was disassembled, photographed, and tested.[2/]

57. Before returning the Intra Kingsbury alignment system, Hamar removed Intra's identification labels and replaced them with Hamar labels.

[1/]Hamar added a shim to the first few Model T-216 targets to compensate for the small mirrors that it received in an early shipment from a supplier. The shim is not needed if the mirror is the correct size as shown in Hamar's specifications.

58. On April 24, 1986, Hamar's attorney sent Intra a letter with copies of the patents in suit. In the letter Hamar's attorney asserted that the laser emitter and targets of the Kingsbury alignment system were Hamar's products, accused Intra of violating the federal trademark statute by falsely designating the origin of the laser emitted and target, and informed Intra that the emitter and target were covered by the '202 and '618 patents.

59. On May 1, 1986, Intra'a attorney responded in writing to the letter of Hamar's attorney and informed Hamar that Intra planned to manufacture and market laser alignment equipment.

60. On May 12, 1986, Intra sold one Quadra-Beam laser alignment system to General Motors of Canada and another Quadra-Beam laser alignment system to Hydra-Matic Division of GMC. On June 23, 1986, and on June 28, 1986, Intra sold a second and third Quadra-Beam laser alignment system to General Motors of Canada. On July 14, 1986, Intra sold a Quadra-Beam laser alignment system to a Ford Motor Company plant in Cincinnati, Ohio. Each Quadra-Beam laser alignment system sold by Intra between May 12, 1986, and July 14, 1986, ranged in price from approximately $16,000.00 to $22,000.00. Approximately $5,000.00 to $7,000.00 of the total price of the Quadra-Beam system consisted of the target, target accessories and readout units

---

[2/] At the September, 1986, Chicago NATBA Tool Show, Hamar exhibited laser alignment equipment which incorporated several features of the Intra Kingsbury alignment system, including side mounted emitter controls for adjusting the laser beam, replaceable mountings on the emitter and target, and faster electronics for displaying the results.

(i.e., those devices covered by the '618 patent). Hamar charges similar prices for its laser alignment systems. The average sales price of a target, target accessories and readout unit is $6,000.00. Total sales of targets and related equipment by Intra was approximately $30,000.00 (5 units x $6,000.00). Hamar's gross profit percentage on sales of its laser alignment system is 60%. Hamar's lost profits resulting from Intra's sales of laser targets and related equipment is $18.000.00

61. Intra sold five Quadra-Beam laser alignment systems after having received notice and copies of the '618 patent and the '202 patent, and without having received a written legal opinion or a legal opinion as to the validity of the '618 and '202 patents.

62. On June 2, 1986, Hamar's attorney responded to the May 1, 1986 letter of Intra's attorney. Hamar's attorney accused Intra of reworking and relabeling Hamar's equipment and informed Intra that a copy of the letter was being forwarded to Intra's customer, the Ford Motor Company. The June 2, 1986 letter by Hamar's attorney again admonished Intra to respect Hamars patents.

63. The last shipment of a Quadra-Beam laser alignment system was on July 14, 1986, at which time Intra voluntarily discontinued all further sales and production of laser alignment systems pending resolution of this case.

D. Intra's Infringement of the Patents in Suit

i. Intra's Infringement of the'202 Patent Claims

64. The claimed invention of the '202 patent is illustratively set forth in claim 9 as follows:

Appendix A

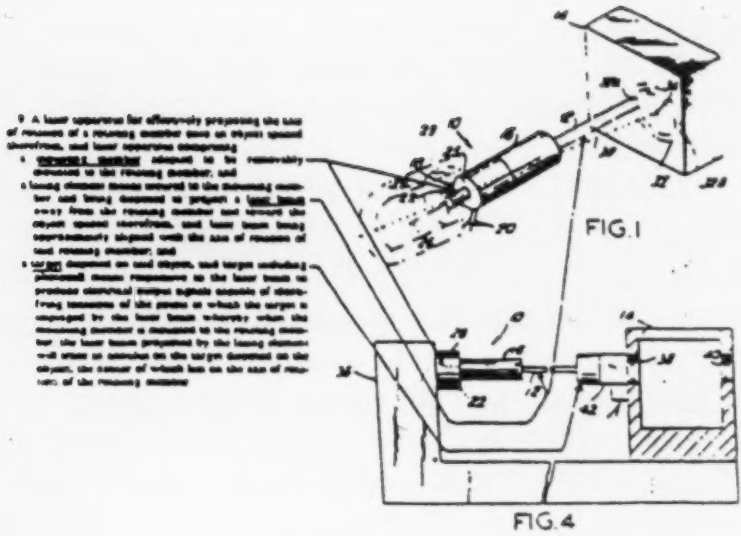


FIG.1

FIG.4

65. The Intra Quadra-Beam system includes all of the elements of claim 9 of the '202 patent: a laser apparatus for projecting the axis of rotation onto an object spaced therefrom, a lasing element secured to the mounting member and disposed to project a laser beam away from the rotating member toward the object, the laser beam approximately aligned with the axis of rotation of the rotating member, and a photocell target upon which the laser beam projected by the laser will trace an annulus on the target, with the center of the annulus lying on the axis of rotation of the rotating member.

66. Claim 14 of the '202 patent adds a description of the mounting means of claim 9 as follows:

14. A laser apparatus as in claim 9 wherein the mounting member comprises an elongated mounting stud and a planar mounting surface, said mounting stud being connected to and extending perpendicularly from said mounting surface, said mounting stud being substantially collinear with the laser beam projected by the lasing element.

67. The Intra Quadra-Beam system includes a mounting member as described in claim 14. The four essentially symmetrical laser beams of the Intra Quadra-Beam system are functionally equivalent to a laser beam collinear with the longitudinal axis of the laser emitter mounting stud.

68. Claim 1 of the '202 patent states:

1. A laser apparatus for effectively projecting the axis of rotation of a rotating tool or work piece holder onto an object spaced therefrom, said apparatus comprising:

a housing having first and second opposed ends;

a generally elongated mounting stud fixed connected to and extending from the first end of said housing, said mounting stud being of a size and shape to be held by the rotating tool or work piece holder such that the longitudinal axis of the mounting stud is approximately aligned with the axis of rotation of the rotating tool or work piece holder;

a lasing element mounted in said housing and disposed to project a laser beam out of the second end of said housing and substantially

collinear with the longitudinal axis of the mounting stud; and

a target disposed on said object, said target including photocell means responsive to the laser beam to produce electrical output signals capable of identifying locations of the points at which the target is impinged by the laser beam projected by the lasing element whereby when the mounting stud is held by the rotating tool or work piece holder, the laser beam projected by the lasing element will trace an annulus on the target disposed on the object, with the center of the annulus defining a point on a projection of the axis of rotation of the rotating tool or work piece holder.

69. The Intra Quadra-Beam system includes a housing having first and second opposed ends, an elongated mounting stud of a size that is able to be held by a rotating tool (with the longitudinal axis of the stud being aligned with the axis of rotation of the rotating tool), and a lasing element mounted in the housing and disposed to project a laser beam out the end of the housing opposite the end containing the stud. The laser beam in the Quadra-Beam system is broken into four beams that travel parallel to the longitudinal axis of the mounting stud. The Quadra-Beam system includes a photocell target that is impinged by the laser beam. The tool in which the laser is housed is rotated to describe an annulus, the center of which defines the axis of rotation of the tool holder.

70. Claim 2 of the '202 patent states:

2. A laser apparatus as in claim 1 wherein said mounting stud is a cylinder.

The Quadra-Beam system emitter contains a cylindrical stud.

71. Claim 3 of the '202 patent states:

3. A laser apparatus as in claim 2 wherein the first end of the housing further includes a planar mounting surface disposed substantially perpendicular to the mounting stud.

The Quadra-Beam system emitter has a flat housing surface with a mounting stud extending perpendicularly from that surface.

72. Claim 4 of the '202 patent states:

4. A laser apparatus as in claim 1 wherein the lasing element is a single transverse mode diode laser.

The Quadra-Beam system contains a Mitsubishi single transverse mode diode laser.

73. Claim 5 of the '202 patent states:

5. A laser apparatus as in claim 1 further comprising means for electrically connecting said lasing element to an external power source.

The Quadra-Beam system has electrical conductors extending from the laser for connection to an external power source.

74. Claim 8 of the '202 patent states:

8. An apparatus as in claim 1 further including at least one adjusting screw for adjusting the alignment of the lasing element with respect to the mounting stud.

The Quadra-Beam system has adjusting screws that allow for adjustment of the lasing element with the mounting stud.

75. Claim 10 of the '202 patent states:

10. A laser apparatus as in claim 9 wherein the rotating member is a chuck or collet, and wherein the mounting member comprises an elongated mounting stud adapted to be mounted to the chuck or collet.

The Quadra-Beam system emitter has a mounting stud.

76. Claim 11 of the '202 patent states:

11. A laser apparatus as in claim 10 wherein the mounting stud is cylindrical.

The Quadra-Beam system emitter mounting stud is cylindrical.

77. Claim 15 of the '202 patent states:

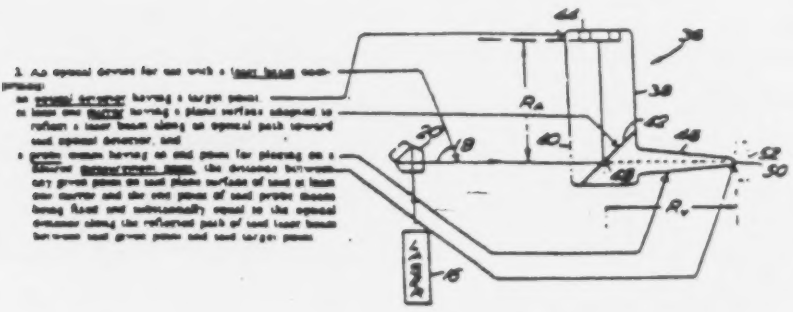
15. A laser apparatus as in claim 14 wherein the lasing element is a solid state [sic] diode laser.

The laser of the Quadra-Beam system emitter is a solid state diode laser.

ii. Intra's Infringement of the '618 Patent Claims

Appendix A

78. The claimed invention of the '618 patent is illustratively set forth in claim 3 as follows:



The Intra Quadra-Beam target includes each element or the equivalent of each element of claim 3. The Quadra-Beam target consists of an optical device with a detector for use with a laser beam. The Quadra-Beam target also contains a mirror adapted to reflect the laser beam towards the detector and the measurement point, which is the equivalent of the probe described in the '618 patent. The Intra Quadra-Beam target also includes a mounting member that extends beyond the location of the measurement point (probe point). Functionally, the mirror projects on the target the image that would appear at the measurement point, as explained in the '618 patent.

79. Claim 9 of the '618 patent provides as follows:

> 9. The optical device of any one of claims 1-8 further comprising collimator means for detecting the angle of incidence of said laser beam on said target.

Appendix A

The Intra Quadra-Beam target also contains a collimator for detecting the angle of incidence of the laser beam.

80. The claimed invention of the method of the '618 patent is set forth in claim 11 as follows:

> 11. A method of detecting whether the axis of a laser beam is passing through a desired measurement point, comprising the steps of;
>
> (i) disposing at least one mirror with plane surface located a preselected distance from said desired measurement point;
>
> (ii) directing the axis of the laser beam toward said desired measurement point while reflecting said laser beam off said at least one mirror;
>
> (iii) detecting the location of said reflected laser beam with an optical detector having a target point located thereon separated from said surface on said mirror along the optical path of said reflected laser beam a distance substantially equal to said preselected distance; and
>
> (iv) adjusting the point of reflection of said laser beam on said at least one mirror until the reflected laser beam falls on said target point on said optical detector.

Use of the Intra target operates to perform the method of claim 11 (as well as claim 15) of the '618 patent and detects whether the axis of a laser beam is passing through a desired measurement point by disposing a mirror a particular location from the desired measurement point, directing the axis of the laser beam

toward the measurement point while reflecting the laser beam off the mirror to an optical detector located an equal distance from the mirror as is the measurement point, and adjusting the assembly to make the desired corrections. The Intra target also performs the step of detecting the angle of incidence of the laser beam by thereafter placing a collimator in front of the target.

81. Claim 1 of the '619 patent states:

> 1. An optical device for use with a laser beam to locate the position of a measurement point, comprising:
>
> detector means having a target point for sensing a laser beam;
>
> mirror means for reflecting a lasr beam toward said detector means;
>
> a probe element having an end point adapted to be placed on a desired measurement point; and
>
> means for mounting said detector means, said at least one mirror and said probe element with respect to each other such that a laser beam directed toward said desired measurement point and reflected by said mirror means will fall on said target point when said probe end point is placed on said desired measurement point.

The Quadra-Beam system target comprises a photocell electronic detector for sensing a laser beam, a mirror to reflect the laser beam toward the detector, a measurement point in the housing equivalent to a probe, and a means to mount the detector. The arrangement of the detector, mirror, and measurement point is such that

the laser beam impinges on the detector at a location identical to the measurement point.

82. Claims 2 and 4 of the '618 patent respectively state:

> 2. The optical device of claim 1 wherein said target point of said detector means is spaced from the surface of said mirror means a distance along the optical path of said reflected laser beam equal to the distance of said surface from said desired measurement point whereby the virtual location of said target point at said desired measurement point will be substantially unaffected by movements of said optical device as long as said probe end point remains on said desired measurement point.
>
> 4. The optical device of claim 3 wherein said optical distance between said given point and said target point of said optical detector is fixed so that said target point is virtually located at said desired measurement point when said probe end point is placed on said measurement point being substantially unaffected by movements of said optical device as long as said probe end point remains on said desired measurement.

Regardless of the orientation of the Quadra-Beam target, the measurement point or probe point will be represented on the detector as the virtual image of the measurement or probe point by the laser beam.

83. Claim 6 of the '618 patent states:

> 6. The optical device of claim 4 wherein said device further comprises housing means for

> fixedly accommodating said optical detector, said at least one mirror and said probe means, and window means in said housing means for passing a laser beam to said one mirror.

The Quadra-Beam target is comprised of a unit in which all the components are within the housing.

84. Claim 7 of the '618 patent states:

> 7. The optical device of claim 6 wherein said distance between said given point and said end point of said probe means is generally along a first axis, said optical distance is generally along a second axis, and the angle between said first and second axes is approximately 90^{o}.

The Quadra-Beam target is arranged to direct the laser beam at the desired measurement (probe) point and to reflect the beam 90^{o} to the detector.

85. Claim 12 of the '618 patent states:

> 12. The method of claim 11 wherein said target point on said optical detector and said one mirror are fixed with respect to each other and are moveable with respect to said desired measurement point as long as said mirror is disposed said predetermined distance from said desired measurement point.

The Quadra-Beam system functions to measure a particular point on a work piece for alignment with a spindle. The measurement (probe) point must be located equidistant from the mirror surface to the distance the detector is displaced from the mirror.

86. Claim 13 of the '618 patent states:

13. The method of claim 12 wherein said step of reflecting includes reflecting said laser beam off a single mirror.

The Quadra-Beam target has only one mirror.

E. Scope and Content of the Prior Art

i. The '202 Patent

87. The '202 patent contains independent claims 1 and 9. As quoted above, claim 9 sets forth a device for projecting the axis of rotation of a rotating member (or tool) by mounting a laser on a rotating tool such that the laser is approximately aligned with the axis of rotation of the rotating tool and projects a laser beam toward a target placed on a work piece. The laser beam projected by the imperfectly mounted laser traces an annulus on the target. Photocells located on the target identify the location of points at which the laser beam strikes the target. The center of the annulus lies on the axis of rotation of the rotating tool. In claim 1, the device is described as consisting of a housing with two ends. Attached to the first end of the housing is a mounting stud. The mounting stud can be attached to the rotating tool so that its longitudinal axis aligns with the axis of rotation of the rotating tool. A laser mounted inside the housing projects a beam out of the second side of the housing.

88. Martin R. Hamar authored six printed publications in the period of 1968 to 1976 relating to laser alignment of machine tools: Laser Alignment -- Current Uses and Applications, Society of Manufacturing Engineers Technical Paper MR74-967 (1974); Laser Alignment -- Current Uses and Applications -- 1976, Society of Manufacturing Engineers Technical Paper

MR76-864 (1976); Laser Alignment in the Paper Industry, 56 Tappi 90-91 (July, 1973); Laser Alignment in Industry, Society of Manufacturing Engineers Technical Paper IQ69-819 (1969) (summarized in Precision Alignment With a Laser, Machine Design 136-38 (Feb. 5, 1970)); Laser Alignment in Industry, American Society of Tool and Manufacturing Engineers Technical Paper MR68-408 (1968).

89. Hamar's attorney was aware of the printed publications of Martin R. Hamar but did not disclose any of the publications to the Examiner during the prosecution of the application for the '202 patent. According to Hamar's attorney, each of the printed publications discloses a cylindrical laser in combination with a photocell target and, as such, are merely cumulative to United States Patent No. 3,902,810 to Hamar, which Hamar's attorney did reveal to the Examiner.

90. Each of the Hamar publications discloses a cylindrical laser in combination with a photocell target. Specifically, Laser Alignment -- Current Uses and Applications -- 1976, Laser Alignment in the Paper Industry and Precision Alignment with a Laser show how machine tools can be aligned by placing an electronic target on the tool point or spindle of a machine. According to the publications, a laser is positioned so that the beam is parallel to the line of motion of the tool or table. Once the laser and target are positioned, the machine is driven by its motors just as if, for example, it were cutting metal. The target contains four photocells. Opposing pairs of cells are interconnected and able to produce signals showing the displacement of the center of the laser beam with respect to the center (or reference

point) of the four target cells. The signals from the cells are fed into a strip chart recorder, which records the vertical and horizontal shifting of the target as the machine is driven from one end of its motion to the other.

91. United States Patent No. 3,902,810, which Hamer's attorney revealed to the Examiner, discloses a system and method for aligning a turbogenerator or other apparatus having a centerline that sags in a verticle direction. In particular, the '810 patent reveals how a cylindrical laser can be used in such a system. The system is illustratively set forth in claim 5 as follows:

> 5. An alignment system for [an] apparatus, said system comprising stationary means for producing a beam of coherent light, means for leveling said beam so that it is generally normal to a radial line extending from the center of the earth and passing a point adjacent said beam producing means, means disposed adjacent said stationary means, means disposed adjacent said stationary means for producing a beam of coherent light for moving said beam parallel to itself in a horizontal plane, means disposed adjacent said stationary means for producing a beam of coherent light for moving said beam parallel to itself in a vertical plane, and means for detecting the location of said beam relative to the center of a bore wherein the detecting means includes a rotably mounted target that, in one position, is adapted to detect the relative position of the beam with respect to the center of the bore and, in a second position, allows the beam to pass therethrough.

Once the first bore on the machine is aligned, the target is moved to allow the laser beam to pass through to the next bore containing a target. Once that bore is aligned, its target is moved to allow the beam to pass to a third bore, and so on.

92. The targets shown in the '810 patent consist of four electronic photocells. The '810 patent appropriately cites to United States Patent No. 3,535,525 to Minkowitz, which contains a detailed description of an electronic target.

93. As noted above, the Examiner in his initial Office Action rejected claims 1-16 and 17, as originally proposed, as being obvious over the patents of Moller or Raiha in view of Eggenschwyler. The Examiner also rejected claim 17 as being obvious over the patent of Griffin. Moller and Griffin disclose the use of optical telescopes mounted in rotating tool holders in combination with targets for projecting the axes of the tool holders onto the targets. The Examiner found that

> The main difference between the subject matter sought to be patented and Moller or Raiha is the type of light. It would not be patentable to substitute for light sources of Moller or Raiha, the common expedient of a laser as in Eggenschwyler, since such a substitution would be obvious to one having ordinary skill in this art.

As earlier noted, Hamar's attorney did not object to the statements by the Examiner.

94. When the application was filed, a photocell type target was never specifically mentioned in any of the original seventeen claims. Neither was it specifically

mentioned in any of the original seventeen claims, nor was it illustrated in the drawings. After the Examiner's initial Office Action, Martin R. Hamar and his attorney had a personal interview with the Examiner. At the interview, Martin Hamar amended claim 1 to include the recitation of a target including a photocell means. The Examiner's comment on the Interview Summary Record states that claims that further defined the target in combination with the laser would be more favorably received. The comment indicated that the Examiner would not approve claims that did not include a photocell target as one of the elements. Martin Hamar's printed publications, however, show that he was aware that the combination of a laser and photocell type target was well-known in the art of machine alignment technology, but withheld that fact from the Examiner. In other words, the printed publications of Martin R. Hamar were more material to the examination of the application for the '202 patent than the four Hamar patents submitted with the disclosure statement, and Hamar and his attorney knew or should have known that the Examiner would have considered them material to the issuance of the patent.

95. Intra further contends that the invention in the '202 patent, even with the amendments by Martin Hamar and his attorney, would have been obvious at the time the invention was made to a person having ordinary skill in the art. To that end, Intra offers numerous patents and publications not considered by the Examiner.

96. Laser Beam Centering System, Mechanical Engineering (June, 1977), shows a laser attached to the protruding end of a ship's main engine crankshaft. From that position, the laser projects a laser beam into the hollow center of a boring bar. Several laser beam

detecting devices inside the boring bar monitor the alignment of the boring axis in the ship's remaining propellor shaft housings. The publication does not disclose whether the laser should be rotated, or whether the axis of the center of rotation should be found.

97. Thomas E. Prince, Laser Helps Bore Straight Holes. American Machinist (Aug. 9, 1971), uses a rotating target as part of an alignment device for deep hole boring operations. As a photodetector mounted in the rotating boring head of the boring machine moves in an "error circle," the dc component of the detector output voltage is used (after amplification) to drive two alignment screws on the alignment stand holding the laser. As a result, the laser is aligned with the exact center of rotation and made perfectly parallel with the axis of rotation of the boring machine.

98. Intra also introduced several manuals on calibration procedures printed by Grumman Corporation. The manuals cover laser calibration procedures. Significantly, the Grumman publications in three or four instances disclose the rotation of a laser emitting body at 180^{o} and at 360^{o}.

99. Japan Patent Publication No. Sho 55 (1980) - 87113 to Ono discloses the rotation of a laser emitting body and describes how the laser beam projects a circle or annulus on a photocell. One shows how a rotating laser, which projects a circle or an annulus on a photodetector, can be used to find the perpendicular point on a machine located above a laser centering apparatus. In this patent, a laser is placed in a barrel. The barrel in turn is placed inside a larger barrel. The inner barrel containing the laser is placed on bearings so that it can be rotated. The laser beam emitted by the rotated laser is focused on a

photodetector installed horizontally at the center of a machine located above the laser. The machine is centered by rotating the laser such that the beam projects a circle on the light detector. Metering devices compute and display the center point of the circle. The center gives the true perpendicular point on the machine above the laser emitting apparatus.

100. Intra additionally offers several other patents in its effort to establish the obviousness of the invention contained in the '202 patent. United States Patent No. 3,551,057 to Hamilton teaches the use of a cylindrical laser and a photocell target in place of the well-known alignment telescope and target.

101. United States Patent No. 3,635,108 to Prince discloses a device for boring a straight hole. Prince shows a long, hollow boring bar containing a cutter head with a photodetector attached to the aft side of the cutter head. A laser projects a beam onto the photodetector. The output from the photodetector is fed into a control unit, which operates a hydraulic valve. The hydraulic valve, in turn, operates a pair of pusher pads on the boring bar to direct the cutter head in a straight path.

102. United States Patent No. 3,646,838 to Andersen suggests the interchanging of a laser source and target. Specifically, Andersen discloses a device by which two hollow rotable shafts are aligned by use of a laser and target. The shafts are adjusted as the target is moved at various points from the inner to the outer end of the shaft. Andersen suggests that the alignment be checked by interchanging the positions of the laser and the target. Once the shafts are aligned and securely fixed, a tool arm is mounted to the outer end of one or both of the rotable shafts. As a result, any section of the outside surface at

one end or both ends of the mill body can be machined with assurance of the parallelism and cocentricity of the surfaces machined.

103. United States Patent No. 3,718,398 to Becraft et al. discloses a boresight alignment device and gives a method for aligning a laser beam by rotating the laser through 360°.

104. United States Patent No. 3,535,525 to Minkowitz, which is cited in the '810 patent that Hamar disclosed to the Examiner, sets forth a device for determining the location of the center of a laser beam emitted by a laser located a given distance from an object being aligned. The object is aligned coursely so that the laser beam strikes a target placed on the object. The target contains four generally planar and rectangular photocells positioned about a reference point. The first and second photocells are positioned diagonally along one axis (e.g., Y axis), while the third and fourth photocells are positioned diagonally along a perpendicular axis (e.g., X axis). Each photocell has a pair of output terminals for providing levels of positive and negative electrical potentials with light impinges upon the cell. The output terminals are attached to a device that displays the direction and magnitude of the displacement of the laser beam from the reference point lying at the center of the perpendicular axes.

105. United States Patent No. 3,601,476 to MacKenzie discloses the use of adjusting screws for aligning lasing elements disposed substantially colinear with the axis of housings.

106. Examiner Martin, approximately two weeks after the trial in this case, granted Intra's request for

reexamination of the '202 patent. According to the Examiner, consideration of the Hamilton, Prince, Andersen, Becraft et al., Ono and Japan Publication No. Sho 58 (1983) - 90437 to Nakanishi, as well as printed publications Laser Helps Bore Straight Holes, Laser Alignment in the Paper Industry, Laser Beam Centering System, Laser Alignment -- Current Uses and Application -- 1976, raised a "substantial new question of patentability as to claims 1-16 of the ['202 patent] since these documents are clearly material to the examination of the claims of the Hamar patent as pointed out in the request [for reexamination]."[3]

ii. The '618 Patent

107. The target described in the '618 patent is designed for situations where it is difficult to place the plane of the target's light sensitive photodetector cells exactly on a measurement point. The target claimed in the '618 patent compensates for the actual physical dimensions of the detector by placing a mirror in the path of the laser beam at a preselected distance from the desired measurement point. The photodetector is placed in line with the laser beam reflected from the mirror so that the distance from the mirror to the photodetector is equal to the distance from the mirror to the desired measurement point. In short, the photodetector functions as if it were physically located at the desired measurement point even though its circuitry and housing would make location of the photodetector at the desired measurement point virtually impossible.

108. U.S. Patent No. 3,902,810 to Hamar, U.S. Patent No. 3,799,674 to Guillet, U.S. Patent No. 3,765,764 to Niss, and U.S. Patent No. 3,824,020 to Pease use a "see thru" target and a mirror to reflect light to a detector where it is inconvenient to place a detector on a position to be measured.

109. U.S. Patent No. 3,723,013 to Stirland and the Cubic-Precision See Thru target, which was not considered by the Examiner, do not set forth an equal distance relationship between the target and mirror and the photodetector and mirror. Moreover, Stirland and the Cubic-Precision See Thru target are not designed to be machined and must be squared in place before being used.

F. Differences Between the Prior Art and the Claimed Invention

i. The '202 Patent

110. The '202 patent suggests the mounting of a laser in a spindle for rotation to define an annulus on a target and to find the axis of rotation of the spindle. Hamilton, Ono, Laser Beam Centering System, and the Hamar articles show the use of cylindrical-shaped lasers in combination with photocell detectors. Ono and the Grumman manuals reveal the rotation of a laser emitting

---

3/ Hamar requested that the Patent Office stay the reexamination of the '202 patent pending the decision by this Court.

body to project an axis of rotation onto photocell targets. The Grumman manuals show a laser mounted in a rotating machine tool. Ono shows how a laser beam emitted from a rotating laser forms an annulus or circle on a photocell target and gives the means for finding the axis of rotation of the rotating laser. In short, there is little difference between the Ono and Grumman references and the claimed invention of the '202 patent.[4]

ii. The '618 Patent

111. The claimed invention for the '618 patent is a device for locating a virtual image on a target located remote from the measurement point. By specifically disposing the reflective surface of the mirror at equal optical distances from both the desired measurement

---

[4]Hamar contends that the invention of the '202 patent is not obvious because there is "[n]o disclosure or suggestion [in the prior art] for mounting an alignment laser in a spindle for rotation to define an annulus on the target and to find the axis of rotation of the spindle." Defendant's Post Trial proposed Findings of Fact and Conclusions of Law passim. In so arguing, Hamar in effect asks this Court to hold that since the '202 patent is not anticipated by prior art, Intra has not carried its heavy burden of showing obviousness. The Court declines that invitation and refuses to replace the standard for determining obviousness with the standard for determining anticipation.

Appendix A

G. Level of Ordinary Skill in the Pertinent Art

112. The prior art relevant to the '202 and '618 patents involves all machine alignment technology.

point and the optical detector, the '618 patent compensates for movement or misalignment of the probe or mounting member about the measurement point and relative to the axis of the incoming laser beam. Indeed, the virtual detector of the '618 patent enables exact laser alignment despite misalignment of the photodetector target by a transfer line technician. In contrast, none of the prior art offered by Intra sets forth an equal distance relationship between the mirror and desired measurement point and the mirror and optical detector.113. The main problem encountered in the art is the need for precise alignment of a tool and a work piece. Although simple manual or mechanical alignment can be used to determine the point at which a cutting tool will strike a work piece, those methods are unacceptable where, for example, a rotating cutting tool and a work piece are separated by a great distance, the cutting tool must be angularly aligned to the surface of the work piece, or the cutting tool must perform a precise machining operation on an interior portion of a work piece.

114. Alignment originally was accomplished through the use of simple tools such as tight wires, levels, and straight edges. Optical tooling became popular beginning in the 1920's. Lasers were first used to align machines beginning in the late 1960's, although they became more prevalent in the 1970's and early 1980's as their price declined. Present laser alignment systems are

more sophisticated than the earlier versions. Current commercially available laser alignment systems include the Hewlett-Packard 5526A Laser Measurement System, Hamar's Model 711 Alignment Laser System and Model 800 Spindle Laser System, and Nac HSV-2000 Dual Camera High Speed Video System.

115. A person having ordinary skill in the relevant art has an undergraduate engineering degree or its equivalent, plus experience in the use and application of laser devices for alignment and measurement.

116. An individual can be trained in roughly two or three days to align machines using these alignment systems. An example of such an individual is Hamar's witness Robert Bald. Robert Bald is a high school graduate with one year of college. He has had six to seven years experience in the use of mechanical equipment for aligning tools as the sole employee of a company that provides machine alignment. His experience with laser alignment equipment, however, is limited to Hamar's Model 711 and Model 800 laser alignment systems. Such an individual has less than ordinary skill in the art of laser equipment.

117. Gordon Brown and Martin R. Hamar are persons of extra-ordinary skill in the art.

H. Secondary Considerations

118. The Hamar laser alignment system covered by the '202 and '618 patents were first sold by Hamar in December of 1983. Hamar has achieved substantial commercial success during the three years since that system was introduced.

119. Prior attempts to align precisely the machine stations of a transfer line met with limited success. Intra personnel having ordinary skill in the art of machine alignment technology acknowledged as late as August of 1984 that the use of lasers for aligning spindles of a machine was a new and untested technology, and could result in unforeseen problems and costs. Intra personnel searched for other sources of spindle lasers but discovered that Hamar was the only source of laser equipment suitable for aligning machines along a transfer line. The Hamar Model 800 Spindle Laser and Model T-216 Target (and related equipment), as modified by Intra's consultant Gordon Brown, satisfied the need for precise alignment of the Kingsbury transfer line at the Ford Ypsilanti Plant.

120. Prior to the development of the Hamar spindle laser system, there was some movement among those involved in laser alignment technology away from the position that lasers should be firmly set in a fixed position and toward the belief that movement of an alignment laser could be useful in certain circumstances.

I. Hamar Warranty

121. As noted above, Intra personnel could not get the Hamar equipment to work despite spending several days working on the equipment.

122. The Hamar warranty stated that Hamar's obligation was "limited to making good at its factory any instrument or other article of equipment which shall within one year after shipment of each instrument or other article or equipment to the original purchaser be returned intact to it . . ." The warranty further stated that it shall not apply to any instrument or other article of

equipment which shall have been repaired or altered outside the HAMAR LASER INSTRUMENTS, INC., factory or authorized service station . . . ."

123. Although Intra made several phone calls to Shewell and attempted to call Hamar, Intra never made Hamar aware of the difficulties it was having with the equipment

124. Intra never returned the equipment to Hamar.

125. Intra disassembled the Hamar equipment instead of having Hamar or Shewell attempt to repair the equipment

J. Patent Marking

126. The patent marking on the Hamar spindle laser stated "U.S. and Foreign Patents and Patents Pending." The first sale of a Hamar spindle laser occurred on December 2, 1983. The application that matured into Hamar's '202 patent was filed on December 6, 1983 and issued on January 28, 1986. The application that matured into the '618 patent was filed on May 24, 1982 and issued on November 20, 1984.

127. Martin R. Hamar admitted that Hamar shipped 29 unpatented Model 800 Spindle Laser and Model T-216 Target systems marked with the incorrect patent marking before the issue dates of either patent.

128. There was no evidence that the false marking was done for the purpose of deceiving the public.

K. Infringement

129. This Court has jurisdiction over this proceeding under 28 U.S.C. Sections 1331, 1338(a) & 2201-2202. Venue is proper under 28 U.S.C. Section 1391.

130. A person asserting a patent right must prove infringement by a preponderance of the evidence. Hughes Aircraft Co. v. United States, 717 F.2d 1351, 1361 (Fed. Cir. 1983). Infringement may be shown in one of two ways: "Literal infringement" requires a showing that an accused device falls within the scope of the asserted claims as properly interpreted. Envirotech Corp. v. Al George, Inc., 730 F.2d 753, 758 (Fed. Cir. 1984). Alternatively, infringement under the doctrine of "equivalents" may be shown if an accused device "performs substantially the same function in substantially the same way to obtain the same result." Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605, 608 (1950).

131. In determining literal infringement, the Court must first define the patented invention as indicated by the language of the claims (a question of law), and then the trier of fact must decide whether the claims cover the accused device (a question of fact). Envirotech Corp., 730 F.2d at 758. A claim is construed in light of its language, the other claims, the prior art, the prosecution history, and the specification, not in light of the accused device. SRI Int'l v. Matsushita Elec. Corp of America, 775 F.2d 1107, 1118 (Fed. Cir. 1985)(en banc); McGill, Inc. v. John Zink Co., 736 F.2d 666, 673 (Fed. Cir.), cert. denied, 469 U.S. 1037 (1984); Fromson v. Advance Offset Plate, Inc., 720 F.2d 1565, 1569 (Fed. Cir. 1983). A claim should be construed as it would be by an individual of ordinary skill in the art. Id. at 1574. Only

after a claim has been construed should it be applied to the accused device to determine infrngement. SRI Int'l, 775 F.2d at 1118.

132. According to the Court in Graver:

> What constitutes equivalency must be determined against the context of the patent, the prior art, and the particular circumstances of the case. Equivalence, in the patent law, is not the prisoner of a formula and is not an absolute to be considered in a vacuum. It does not require complete identity for every purpose and in every respect. In determining equivalents, things equal to the same thing may not be equal to each other and, by the same token, things for most purposes different may sometimes be equivalents. Consideration must be given to the purpose for which an ingredient is used in a patent, the qualities it has when combined with the other ingredients, and the function which it is intended to perform. An important factor is whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was.
>
> A finding of equivalence is a determination of fact. Proof can be made in any form: through testimony of experts or others versed in the technology; by documents, including texts and treatises; and, of course, by the disclosures of the prior art. Like any other issue of fact, final determination requires a balancing of credibility, persuasiveness and weight of evidence.

339 U.S. at 609-10.

133. Intra's Quadra-Beam laser alignment systems infringed the claims of the '202 and '618 patents. Alternatively, the Quadra-Beam systemsw sold by Intra were equivalent to the laser emitter and target shown in the '202 and '618 patents. Nevetheless, Intra is liable to Hamar only for its infringement of the '618 patent since Hamar's '202 patent is invalid and unenforceable.

L. Willful Infringement

134. Upon receipt of actual notice of another's patent rights, a potential infringer has an affirmative duty of due care to determine whether he is infringing. Bott v. Four star Corp., 807 F.2d 1567, 1572 (Fed. Cir. 1986). The affirmative duty normally included the obtaining of competent legal advice before engaging in possibly infringing activity, although the failure to obtain advice of counsel alone does not require in every case a finding of willful infringement. Rolls-Royce Ltd. v. GTE Valeron Corp., 800 F.2d 1101, 1109 (Fed. Cir. 1986). Other factors include whether the infringer deliberately copied the designs and ideas of another and the infringer's behavior as party to the litigation. Bott, 807 F.2d at 1572. No "hard and fast rule per se governs the determination of willfulness, Rolls-Royce Ltd., 800 F.2d at 1108; rather, the trier of fact must consider the totality of circumstances in deciding whether a reasonable person would prudently have conducted his affairs with confidence that a court would hold the patent enforceable. Central Soya Co. v. Geo A. Hormel & Co., 723 F. 2d 1573, 1577 (Fed. Cir. 1983).

135. Intra intentionally infringed both the '202 and the '618 patents by selling four infringing alignment

systems after receiving notice of the Hamar patents and having failed to obtain a carefully considered legal opinion that its device did not infringe a valid claim of a patent. Intra, however, is liable to Hamar only for its willful infringement of the '618 patent since the '202 patent is invalid and unenforceable. Moreover, Intra voluntarily ceased manufacture and sale of infringing systems during the pendency of this litigation, and presented an arguable basis for a finding of obviousness as to the '618 patent. In view of these considerations, the measure of damages for Intra's infringement of the '618 patent shall be doubled to $36,000.00. Additionally, Intra shall be enjoined from further infringement of the '618 patent.

M. Validity of the Hamar Patents

136. Patentability depends on utility, novelty, and noobviousness. 35 U.S.C. Sect. 101-103. Once issued, a patent is presumed valid. Id. Sect. 282.

137. "The burden of establishing invalidity . . . rest[s] on the party asserting such invalidity." Id. the burden must be carried by clear and convincing evidence. E.g., SSIH Equipment, S.A. v. United States International Trade Commission, 718 F.2d 365, 375 (Fed.Cir. 1983.

i. Anticipation

138. A challenger may sustain the burden imposed by Sect. 282 by establishing that a claimed invention was anticipated by prior art. 35 U.S.C. Sect. 102. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Brothers, Inc., vs. Union Oil Co. of Cal., 814 F. 2d 628,

631 (Fed. Cir. 1987); see also Rolls-Royce Ltd. v. GTE Valeron Corp., 625 F. Supp. 343, 352 (E.D. Mich 1985), aff'd, 800 F.2d 1101 (Fed. Cir. 1986).

139. Testimony of anticipation, without contemporaneous documentary or physical evidence showing a reduction to practice and prior public use, is insufficient to establish anticipation within the meaning of Sect. 102. Rolls-Royce Ltd., 625 F. Supp. at 353.

140. Moreover, a patent claim is not anticipated by the accidental, incidental, or unintentional duplication of its features in a prior use. See Tilghman v. Proctor, 102 U.S. 707,711 (1881).

141. Neither the '202 nor the '618 patent was anticipated by prior art.

ii. Obviousness

142. A challenger may also sustain the burden imposed by Sect. 282 by establishing the obviousness of an invention. A challenger must show that the "difference between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. Sect. 103. The Sect. 103 determination of obviousness is a conclusion of law based on factual findings. See, e.g., Graham v. John Deere Co., 383 U.S. 1, 17 (1966); Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1566-68 (Fed. Cir. 1987); cf. id at 1567-68 (factual findings must be made by proper application of certain legal standards).

143. In making factual findings, the factfinder must consider (1) the scope and content of the prior art;

(2) the differences between the prior art and claimed invention; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations, which may serve as indicia of obviousness. Secondary consideration that may be relevant include commercial successs due to to the invention; failure of others; long felt but unsolved needs; copying the invention in preference to the prior art; movement of the skilled in a different direction; and other circumstantial evidence of nonobviousness. Graham, 383 U.S. at 17-18; Panduit Corp., 810 F.2d at 1569; Windsurfing International, Incl. v. AMF, Inc., 782 F.2d 995, 999-1000 (Fed. Cir.), cert. denied, 106 S. Ct. 3275 (1986); Environmental Designs v. Union Oil Co. of Cal., 713 F.2d 693, 695 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984); see also United States v. Adams, 383 U.S. 39, 52 (1966) (disbelief by experts); Johns-Manville Corp. v. Guardian Industries Corp., 221 U.S.P.Q. 319, 338 (E.D. Mich:)(existence of a crowded art in which many patents exist but do not mention claimed invention), modified, 223 U.S.P.Q. 974 (E.D. Mich. 1984), aff'd without opinion, 770 F.2d 178 (Fed. Cir. 1985).

144. A challenger is more likely to sustain the burden imposed by Sec. 282 by producing prior art or other evidence that was not considered or more pertinent than that considered by the patent examiner. W. L. Gore & Associates, Inc. v. Garlock, Inc. 721 F.2d 1540, 1553 (Fed. Cir. 1983), cert denied, 469 U.S. 851 (1984); Aktiebolaget Karlstads Mekaniska Werkstad v. United States International Trade Commission, 705 F.2d. 1565, 1577 (Fed. Cir. 1983).

> [Section] 282 creates a presumption that a patent is valid and imposes the burden of proving invalidity on the attacker. That burden is

> constant and never changes and is to convince the court of invalidity by clear evidence. Deference is due the Patent and Trademark Office decision to issue the patent with respect to evidence bearing on validity which it considered but no such deference is due with respect to evidence it did not consider. All evidence bearing on the validity issue, whether considered by the PTO or not, is to be taken into account by the tribunal in which validity is attacked.

American Hoist & Derrick Co. v. Sowa & Sons, 725 F.2d 1350, 1360 (Fed. Cir.), cert. denied, 469 U.S. 821 (1984).

145. The question of obviousness must be determined by reference to a hypothetical person having ordinary skill in the art, not the extraordinary man in the art or the actual inventor. Standard Oil Co. v. American Cynamid Co., 774 F.2d 448, 453-4 (Fed. Cir. 1985); Kimberly-Clark Corp. v. Johnson, 745 F. 2d 1437, 1449-54 (Fed.Cir. 1984).

> The person of ordinary skill is a hypothethical person who is presumed to be aware of all the pertinent prior art. The actual inventor's skill is not determinative. Factors that may be considered in determining level of skill include: type of problems encountered in art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field. Not all such factors may be present in every case, and one or more of them may predominate.

Custom Accessories v. Jeffrey-Allan Industries, Inc., 807 F.2d 955, 962-63 (Fed. Cir. 1986)(footnotes omitted).

> 146. To reach proper conclusion
>
> the decisionmaker must step backward in time and into the shoes worn by that "person" when the invention was unknown and just before it was made. In light of all the evidence, the decisionmaker must then determine whether the patent challenger has convincingly established, 35 U.S.C. Sec. 282, that the claimed invention as a whole would have been obvious at that time to that person. 35 U.S.C. Sec. 103.

Panduit, 810 F.2d at 1566 (footnote omitted) (emphasis in original). The decisionmaker cannot rely on hindsight or use the patent in suit as as guide in evaluating prior art. Rolls-Royce Ltd. v. GTE Valeron Corp., 625 F. Supp. at 348; Multifastener Corp. v. MacLean-Fogg Co., 572 F. Supp. 418, 427 (E.D. Mich. 1983).

147. Intra relies on a combination of prior art references in establishing the obviousness of the claimed inventions. A court cannot hold that a challenger has carried the heavy burden of showing obviousness merely because a patent consists of combinations of old elements. Most patentable inventions combine old elements. The fact that a patent combines teachings from prior art references is irrelevant to the legal determination of obviousness under Sect. 103 and the factual inquiries set forth in Graham:

> A traditional problem with focusing on a patent as a "combination of old elements" is the

> attendant notion that patentability is undeserving without some "synergistic" or "different" effect. Here, the district court spoke of the need for "a new and useful result." Such tests for patentability have been soundly rejected by this court. Though synergism is relevant when present, its "absence has no place in evaluating the evidence in obviousness."

Custom Accessories, 807 F.2d at 959-60 (footnotes omitted). "The critical inquiry is whether 'there is something in the prior art as a whole to suggest the desirabillity, and thus the obviousness, of making the combination.'" Fromson v. Advance Offset Plate, Inc., 755 F.2d 1549, 1556 (Fed. Cir. 1985) (citation omitted)(emphasis in original); see also In re Geiger, 815 F. 2d 686, 688 (Fed. Cir. 1987); Ashland Oil, Inc. v. Delta Resins & Refractories, 776 F.2d 281, 293 (Fed Cir. 1985), cert. denied, 106 S. Ct. 1201 (1986); Lindemann Machinefabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462 (Fed. Cir. 1984).

148. "Things believed to be known to those skilled in the art are often asserted by the examiner to be 'well known' or matters of common knowledge'. . . . If the applicant traverses such an assertion the examiner should cite a reference in support of his or her position. . . . Failure of the applicant to seasonably challenge such assertions establishes them as admitted prior art." Manual of Patent Examining Procedure Sec. 706(a) (5th ed. 1986). See also, e.g., In re Ahlert & Kruger, 424 F.2d 1088 (C.C.P.A. 1970).

149. Intra has established by clear and convincing evidence that the claimed invention of the '202 patent as a whole would have been obvious, at the time the invention

was made, to a person of ordinary skill in the art. Accordingly, the '202 patent is hereby declared to be invalid.

150. Intra has not carried its heavy burden of establishing the obviousness of the '618 patent.

iii. Inequitable Conduct

151. Inequitable conduct by a patentee in procuring a patent from the Patent Office renders a patent unenforceable and provides a defense against a charge of infringement. J. P. Stevens & Co. vs. Lex Tex. Ltd., Inc., 747 F.2d 1553, 1560-61 (Fed. Cir. 1984), cert. denied, 106 S. Ct. 73 (1985). The defense of inequitable conduct requires proof of (1) an act of misrepresentation before the Patent Office; (2) committed with the requisite intent; (3) involving material information; which (4) was known or should have been known to the patentee. N. V. Akzo, Aramide Maatschappij v. E. I. du Pont de Nemours & Co., 810 F.2d 1148, 1153 (Fed. Cir. 1987); see also Allen Archery, Inc., v. Browning Mfg. Co., 2 U.S.P.Q. 2d 1490 (Fed. Cir. 1987).

152. Inequitable conduct encompasses affirmative acts of commission, such as the submission of false information, as well as omission, such as the failure to disclose material information. J. P. Stevens, 747 F.2d at 1559.

153. There are several tests for determining the materiality of the information:

> "Inequitable conduct: requires proof by clear and convincing evidence of a threshold degree of materiality of the nondisclosed or false information. It has been indicated that the

> threshold can be established by any of four tests: (1) objective "but for"; (2) subjective "but for"; (3) "but it may have been"; and (4) PTO rule [37 C.F.R. Sect.] 1.56 (a), i.e., whether there is a substantial likelihood that a reasonable examiner would have considered the omitted reference or false information important in deciding whether to allow the application to issue as a patent. The PTO standard is the appropriate starting point because it is the broadest and because it most closely aligns with how one ought to conduct business with the PTO.... Under the standard, a reference that would have been merely cumulative is not material.

Id. at 1559-60 (citations omitted)(quoted in part in Argus Chemical Corp. v. fibre Glass-Evercoat Co., 759 F. 2d 10, 14 (Fed. Cir.), cert. denied, 106 S. Ct. 231 (1985)).

154. A threshold degee of intent also must be shown:

> That intent need not be proven with direct evidence. It may be proven by showing acts the natural consequence of which are presumably intended by the actor. Proof of deliberate scheming is not needed; gross negligence is sufficient. Gross negligence is present when the actor, judged as a reasonable person in his position, should have known of the materiality of a withheld reference. On the other hand, simple negligence, oversignt, or an erroneous judgment made in good faith, is insufficient.

J. P. Stevens, 747 F.2d at 1560 (citations omitted).

155. Once the thresholds of materiality and intent are met, the trier of fact must balance them in determining whether inequitable conduct has occurred:

> [T]he less material the proffered or withheld information, the greater degree of intent that must be proven. In contrast, a lesser degree of intent must be proven when the information has a great degree of materiality. Indeed, gross negligence can be the intended level of intent when the misrepresentation has a high degree of materiality. Simple negligence, however, or an error in judgment is never sufficient for a holding of inequitable conduct.
>
> N.V. Akzo, 810 F.2d at 1153.

156. If proven, inequitable conduct renders all claims of a patent unenforceable, not just those claims to which the inequitable conduct was directed. J. P. Stevens, 747 F.2d at 1561'.

157. The withholding of material references from the Examiner by Hamar aqnd his attorney constituted inequitable conduct and renders the '202 patent unenforceable.

158. there has been no showing of inequitable conduct by Hamar or his attorney with respect to the '618 patent.

N. False Marking

159. 35 U.S.C. Sect. 292 provides in part that

> (a)...Whoever marks upon, or affixes to, or uses in advertising in connection with any unpatented article, the word "patent" or any other word or

> number importing that the same is patented, for the purpose of deceiving the public;
>
> ....
>
> Shall be fined not more than $500 for every such offense.
>
> (b) Any person may sue for the penalty, in which event one-half shall go to the person suing and the other to the use of the United States.

160. There can be no violation of the false marking statute absent proof that the false marking or mismarking was done to deceive the public. Arcadia Machine & Tool v. Strum, Ruger & Co., 786 F.2d 1124 (Fed. Cir. 1986).

161. Although Hamar falsely marked its goods, there has been no showing that such marking was done with the purpose of deceiving the public.

O. Breach of Warranty

162. Hamar's limitations on its warranty were permissible under M.C.L.A. Sec. 440.2719 (West 1967).

163. Intra failed to give Hamar notice of the defect in the equipment as Intra was required to do under M.D.L.A. Sect. 440.2607 (West 1967).

164. Any possible breach of warranty claim that Intra may have had against Hamar is barred as a result of Intra's failure to notify Hamar concerning the alleged defect and it refusal to return the equipment to Hamar intact. Intra's actions violated the express terms of the warranty as well as the Uniform Commercial Code.

P. Attorney Fees

165. Neither party is entitled to an award of attorney fees. Although fees generally are recovered in cases involving inequitable conduct or willful infringement, the wrongful conduct by both parties prevents either from recovering attorney fees. See 35 U.S.C. Sect. 285; Machinery Corp. of America v. Gullfiber AB, 774 F.2d 467 (Fed Cir. 1985); Rohm & Haas Co. v. Crystal Cemical Co., 736 F.2d 688 (Fed. Cir.), cert. denied, 469 U.S. 851 (1984).[5/]

Q. Illegal Intent to Monopolize

166. Intra finally argues that Hamar's attempt to enforce the patents in suit on the Quadra-Beam system constitutes unfair competition with the intent to monopolize the relevant market.

"To establish an illegal attempt to monopolize, plaintiff must prove: (1) a specific intent to monopolize; and (2) a dangerous probability that the attempt would be successful in achieving a monopoly in the relevant market." Loctite Corp. v. Ultraseal Ltd., 781 F2d 861, 875 (Fed. Cir. 1985)(applying the law of the Seventh Circuit). the misconduct must rise to the level of common law fraud, i.e., that the defendant patentee knowingly and willfully misrepresented the facts to the Patent Office. Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp., 382 U.S. (1965); Argus Chemical Corp. v. Fibre Glass-Evercoat Co., 812 F.2d 1381 (Fed. Cir.

[5/]Intra in its closing argument appeared to withdraw its request for attorney fees.

1987); Kearney & Trecker Corp. v. Cincinnati Milacron, Inc., 562 F.2d 365 (6th Cir. 1977).

167. Hamar and his attorney's conduct during the procurement of the '202 patent rose only to the level of gross negligence. there has been no showing of fraud.

ORDER

For the reasons stated, IT IS HEREBY ORDERED

1. That the '202 patent is invalid and unenforceable.

2. That the Intra has not carried its burden of showing the invalidity of the '618 patent.

3. That judgement be entered in favor of Hamar and against Intra in the amount of $36,000.00 for Intra's willful infringement of the '618 patent.

4. That Intra be permanently enjoined from further infringement of the '618 patent.5. that all other claims between the parties are dismissed.

So ordered.

s/George E. Woods

GEORGE E. WOODS

UNITED STATES DISTRICT JUDGE

Appendix B

Note: This opinion has not been prepared for publication in a printed volume because it does not add significantly to the body of law and is not of widespread legal interest. It is a public record. It is not citable as precedent. The decision will appear in tables published periodically.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

87-1424, -1470

INTRA CORPORATION and
EAGLE TECHNOLOGIES, INC.,

Plaintiffs-Appellants,

v.

HAMAR LASER INSTRUMENTS, INC.,

Defendant-Cross-Appellant.

DECIDED: October 7, 1988

Before NIES, BISSELL, and ARCHER, Circuit Judges.

NIES, Circuit Judge.

DECISION

Appendix B

Both parties appeal from the judgment of the United States District Court for the Eastern District of Michigan, Intra Corp. v. Hamar Laser Instruments, Inc., 662 F. Supp. 1420, 4 USPQ2d 1337 (E.D. Mich. 1987), in a declaratory judgment action brought by Intra Corporation and Eagle Technologies, Inc. (hereinafter, collectively "Intra"). Intra sought declarations of invalidity, unenforceability, and noninfringement of United States Patents Nos. 4,483,618 ('618) and 4,566,202 ('202), owned by Hamar Laser Instruments, Inc. Hamar counterclaimed for infringement of both patents.

The district court held that the '618 patent was not invalid or unenforceable, that Intra infringed the asserted claims, and that its infringement was willful, supporting an increased damage award. On appeal, Intra challenges only the court's findings of infringement and willfulness with respect to the '618 patent. Turning to the '202 patent, the court held that the claims were invalid as obvious under 35 U.S.C. Sec. 103 (1982) and that the patent was unenforceable because Hamar's conduct during prosecution was inequitable. Hamar challenges both holdings in its cross appeal.

Intra had also asserted claims for damages, alleging fraud by Hamar sufficient to support a charge of intent to monopolize under Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp., 382 U.S. 172 (1965), and violation of 35 U.S.C. Sec. 292 (1982) (False Marking) because Hamar prematurely indicated it had patent protection on its product. The court ruled against Intra on both claims and Intra appeals.

We affirm the judgment in all respects.

Appendix B

OPINION

I. The '618 Patent

A. Infringement

The '618 patent relates to an apparatus and method for determining whether the axis of a laser beam is passing through a desired measurement point, useful to measure the position of an object. The district court found that Intra's accused device, called the Quadra Beam (QB) alignment system, contained each element or its equivalent of the asserted '618 claims. See Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 935, 4 USPQ2d 1737, 1739-40 (Fed. Cir. 1987)(in banc), cert. denied, 108 S. Ct. 1226, 1474 (1988). We review the court's finding of infringement under the clearly erroneous standard of review. See, e.g., Windsurfing Int'l, Inc. v. AMF, Inc., 782 F.2d 995, 1000-01, 228 USPQ 562, 566 (Fed. Cir.), cert. denied, 477 U.S. 905 (1986). Under that standard, a finding is clearly erroneous when, although evidence exists to support the finding, "the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." United States v. United States Gypsum Co., 333 U.S. 364, 395 (1948). Intra has failed to show that the district court's findings on the issue of infringement are clearly erroneous.

Intra repeatedly argues that the court "clearly erred" because it "disregarded" certain evidence -- including the specification language; the Examiner's conditions for allowance of the '618 claims; the testimony of Moran, Miller, Heinrich, Brown, and Duey; and the exhibit of a Cubic Precision See-Thru Target. There is no indication in the record, however, that the court did not consider that evidence. In any event, Intra cannot

establish that the district court's findings are clearly erroneous merely by pointing to evidence which might support a contrary finding. See, e.g., Anderson v. City of Bessemer City, 470 U.S. 564, 574 (1985) ("This [clearly erroneous] standard plainly does not entitle a reviewing court to reverse the finding of the trier of fact simply because it is convinced that it would have decided the case differently."). In effect, Intra would have us reweigh the evidence and decide the factual disputes de novo, which is not the function of an appellate court. See, e.g. Polaroid Corp. v. Eastman Kodak Co., 789 F.2d 1556, 1558, 229 USPQ 561, 562 (Fed. Cir.), cert. denied, 479 U.S. 850 (1986); Fromson v. Advance Offset Press, Inc., 755 F.2d 1549, 1555, 225 USPQ 26, 30 (Fed. Cir. 1985); Railroad Dynamics, Inc. v. A. Stucki Co., 727 F.2d 1506, 1513, 220 USPQ 929, 936 (Fed. Cir.), cert. denied, 469 U.S. 871 (1984).

Intra's argument is most notably deficient in its failure to mention the specific claim language. See W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1557, 220 USPQ 303, 316 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). It appears that Intra asserts its device has no "mirror means for reflecting a laser beam toward said detector means" as required by claim 1. Although Intra's QB system has a mirror, Intra asserts its mirror is present only for "packaging" purposes. The district court did not consider Intra's evidence persuasive and we are unpersuaded that the district court's finding, that the QB system has a mirror to reflect the laser toward the detector, is clearly erroneous.Similarly, we are unpersuaded that the court clearly erred in finding a measurement point in the QB

system equivalent to the "probe element" required by claim 1 or in finding the claimed equidistant relationship distance from probe to mirror equal to distance from mirror to detector) present in the QB system.

The judgment of the court that Intra infringed the asserted '618 patent claims is affirmed.

B. Willfulness

Intra also argues clear error in the district court's finding that Intra's infringement was willful, which, as a finding of fact, we review under the clearly erroneous standard. See, e.g., CPG Prods. Corp. v. Pegasus Luggage, Inc., 776 F.2d 1007, 1015, 227 USPQ 497, 502 (Fed. Cir. 1985). Again, we are not left with the firm conviction that a mistake has been committed. The court found that Intra's infringement was willful because it sold "four infringing alignment systems after receiving notice of the Hamar patents and having failed to obtain a carefully considered legal opinion." 662 F. Supp. at 1439, 4 USPQ2d at 1351. These sales occurred during May, June, and July of 1986.

Intra contends that it had obtained oral advice of patent counsel after receiving Hamar's letter of April 24, 1986, which provided notice of Hamar's patent rights, and before selling its infringing systems. As support for its contention, Intra points to the testimony of its President summarizing a meeting held with patent counsel the day after receiving Hamar's letter. Giving the most favorable view to his statement, "We felt we had not done anything wrong. . . .", we are not left with the definite and firm conviction that the court's finding that Intra failed to obtain a "carefully considered legal opinion" is clearly erroneous.

Intra also offers the testimony of its laser consultant, who stated he "didn't see how [the '618 patent] applied." Nothing in that statement unequivocally establishes such an "honest doubt" of validity and infringement that we must hold the court clearly erred in finding willfulness. See, e.g., Rosemount, Inc. v. Beckman Instruments, Inc., 727 F.2d 1540, 1548, 221 USPQ 1, 8 (Fed. Cir. 1984) (generally worded memoranda from engineers and executives do not establish an honest doubt as to validity and infringement).

Finally, Intra argues that the court should have given "weight" to a search its patent attorney conducted in the Patent Office for a laser alignment system in January 1985. First, the record does not indicate that the court failed to consider the search; in fact, it specifically noted the search as a finding of fact. 662 F. Supp. at 1426, 4 USPQ2d at 1341. Moreover, that search was conducted before Hamar's patents issued.

Considering all of the above factors, we are unpersuaded that the court's finding of willful infringement of the '618 patent is clearly erroneous.

II. Fraud Claim

Intra also attacks the district court's judgment asserting clear error in the facts found underlying the court's conclusion that "Hamar and his attorney's conduct during the procurement of the '202 patent rose only to the level of gross negligence. There has been no showing of fraud." 662 F. Supp. at 1443, 4 USPQ2d at 1354. (In view of the court's statement, Intra's charge, that "[t]he Opinion and Order of the trial court in the instant case did not address the issue of whether the acts of Martin R.

Hamar and his attorney rose to the level of fraud," is unfounded). Intra repeats the arguments raised in the context of its infringement appeal, namely, that the court"clearly erred" by "ignoring" testimony which supports it position and that, if the court had found the facts in the manner Intra outlines, a holding of fraud would have been "compelled." We are wholly unpersuaded that the evidence is so strongly in Intra's favor that the court's finding, that Hamar's conduct did not constitute fraud, is clearly erroneous.

III. False Marking

It is uncontested that Hamar sold laser alignment systems mislabeled with the marking "U.S. and Foreign Patents and Patents Pending." Intra seeks to enforce the civil penalty under 35 U.S.C. Sec. 292 (1982) for Hamar's acts of marking its products with the false indication that they were patented or that a patent application had been filed. Pursuant to advice of counsel, Hamar marked its products shortly before its patent applications were filed. The district court found that "[t]here was no evidence that the false marking was done for the purpose of deceiving the public." 662 F. Supp. at 1437, 4 USPQ2d at 1350. Consequently, the court concluded there was no violation of section 292. See Arcadia Mach. & Tool, Inc. v. Sturm, Ruger & Co., 786 F.2d 1124, 1125, 229 USPQ 124, 125 (Fed. Cir. 1986)("no violation of Sec. 292 absent an evidentiary showing that the false marking or mismarking was 'for the purpose of deceiving the public'").There is no direct evidence of Hamar's intent to deceive the public. Nevertheless, Intra asks that intent be inferred from the pertinent circumstantial evidence. Although Hamar's labelling is technically incorrect, the entirety of the circumstances in this case did not convince the district court to find an intent to deceive and we are unpersuaded that finding is clearly erroneous.

Appendix B

IV. Obviousness of the '202 Patent

The invention claimed in the '202 patent is a laser apparatus for projecting the axis of rotation of a rotating tool holder onto a work piece. From the projection, accurate realignment of the rotating tool is possible. The patent claims a laser capable of mounting in a rotating tool holder, such as a chuck, and a photocell target capable of mounting on the work piece. The tool is operated with the laser and target in place, thus producing an electronic readout defining the projection of the tool's axis of rotation.

Hamar argues that the court erred, as a matter of law, in two respects when applying the standard of section 103 to the factual underpinnings of its obviousness analysis. First, Hamar contends that the district court misapplied section 103 when it stated that "the claimed invention of the '202 patent as a whole would have been obvious, at the time the invention was made, to a person of ordinary skill in the art." 662 F. Supp. at 1441, 4 USPQ2d at 1353 (emphasis added). Per Hamar, the court erred by applying the "as a whole" mandate to the claimed invention rather than to the prior art. Section 103 provides, however, in pertinent part:

> A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. Sec. 103 (emphasis added). Moreover, this court has noted that the "as a whole" mandate applies to both evaluation of the claimed invention and to the prior art references. See Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir.1985). Accordingly, the court was correct in viewing the subject matter of the claimed invention as a whole.

Secondly, Hamar contends that the district court made a logically unsupported leap from the prior art to reach a conclusion of obviousness. Thus, per Hamar, the court committed the classic error of relying upon hindsight in assessing the differences between the prior art and the claimed invention. Hamar specifically asserts that the prior art does not suggest placing a laser in a rotating machine tool in combination with a photocell target for alignment purposes. Moreover, Hamar contends, as a matter of fact, that the prior art references do not disclose placement of a laser in a rotating machine component.

he prior art Moller (United States Patent No. 2,146,906) and Raiha (United States Patent No. 4,438,567) patents disclose the use of light-projecting devices, such as an incandescent lamp, mounted in rotating tool holders in combination with targets for alignment purposes. Hamar successfully distinguished its invention over that art, and obtained allowance of the '202 patent, by claiming a laser as the light source in the rotating machine tool in combination with a photocell-type ~~target for~~ alignment purposes. A photocell-type target produces electrical output signals identifying where on the target the laser beam impinges, thus improving over devices having other targets (which

relied on visual observation of a rotating projection) by allowing greater accuracy.

Certain relevant prior art was not before the Examiner when he allowed the '202 patent claims. Most significant is Ono's published Japanese Application No. 55-87,113, which discloses a laser mounted in a rotating machine component in combination with a photocell target. United States Patent No. 3,718,398 (Becraft) also discloses a rotating laser in an alignment system, and manuals printed by Grumman Corporation reveal the rotation of a laser mounted in a rotating machine tool to project an axis of rotation onto photocell targets. Accordingly, Hamar's contention that the prior art does not disclose placement of a laser in a rotating machine component is unfounded and is rejected. We turn, then, to Hamar's assertion that the prior art does not suggest placing a laser in a rotating machine tool in combination with a photocell target for alignment purposes.

In reviewing the district court's conclusion that the '202 patent claims would have been obvious to a person of ordinary skill in the art at the time the invention was made, we must compare the claims as a whole to the prior art, also considered as a whole. See Interconnect, 774 F.2d at 1143, 227 USPQ at 551. This is essential for combination inventions, because generally most combinations are of known elements. See Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984). Moreover, it is improper to pick and choose the claimed elements from among the various prior art references using the patent as a blueprint. See In re Kamm, 452 F.2d 1052, 1056-57, 172 USPQ 298, 301-02 (CCPA 1972). In determining obviousness, therefore, the

inquiry is not only whether each claimed element existed in the prior art, but whether the prior art would have suggested or provided incentive for the combination of claimedelements to one of ordinary skill in the art at the time the invention was made. As we have stated:

> There must be 'something in the prior art as a whole to suggest the desireability, and thus the obviousness, of making the combination.'

Interconnect, 774 F.2d at 1143, 227 USPQ at 551 (citation omitted). Here, the district court did not merely select elements from the numerous prior art references to create the claimed invention by hindsight. Rather, the prior art suggests that the components be combined as they were by Hamar in the '202 patent. For example, Hamar's publications (which the examiner also did not have) disclose a wide variety of applications and uses for laser alignment systems combining a laser and photcell target, including "almost every segment" of the machine tool industry. See, e.g., Hamar, Laser Alignment in Industry, American Soc'y of Tool & Mfg. Eng'rs, Technical Paper MR68-408 (1968). The suggestion to modify the art to produce the claimed invention need not be expressly stated in one reference to show obviousness. Instead, the suggestion may arise from what the references collectively suggest to the hypothetical person of ordinary skill in the art. See Cable Elec. Prods., Inc. v. Genmark, Inc., 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985). Given the prior art use of light sources in rotating tools and the rotational mounting of lasers in machine tools shown in other references, we conclude, as did the district court, that these references would suggest or motivate one of ordinary skill in the art to substitute a laser and a photocell target to obtain the advantage of

greater accuracy in tool alignment systems. reaching that conclusion, we have taken into account, as did the district court, Hamar's evidence of secondary considerations. Particularly important is Hamar's evidence of substantial commercial success. The fact that Hamar's laser alignment system was a successful improvement, however, does not make it patentable when weighed with the strong evidence of obviousness, including the references not considered by the Examiner. See EWP Corp. v. Reliance Universal Inc., 755 F.2d 898, 907, 225 USPQ 20, 25 (Fed. Cir.), cert. denied, 474 U.S. 843 (1985).

In conclusion, the district court articulated a full and careful analysis and we are not persuaded that reversible legal error has occurred in the determination that the invention of the '202 patent would have been obvious; nor are we convinced that the court's findings underlying that determination are clearly erroneous. For the foregoing reasons, we affirm the judgment that the '202 patent is invalid. Because we affirm the court's holding that the '202 patent would have been obvious under the standard of 35 U.S.C. Sec. 103 and attorney fees are not at issue, we need not address the court's holding of inequitable conduct in the procurement of the '202 patent.

Appendix C

Note: This Order has not been prepared for publication in a printed volume because it does not add significantly to the body of law and is not of widespread legal interest. It is a public record. It is not citable as precedent.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

87-1424

INTRA CORPORATION and
EAGLE TECHNOLOGIES, INC.,

Plaintiffs-Appellants,

v.

HAMAR LASER INSTRUMENTS, INC.

Defendant-Appellee.

Before NIES, BISSELL and ARCHER, Circuit Judges.

Appendix C

ORDER

A petition for rehearing having been filed in this case,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and same hereby is, denied.

The suggestion for rehearing in banc is under consideration.

FOR THE COURT

s/Francis X. Gindhart

Francis X. Gindhart

Clerk

November 21, 1988

cc: Alex Rhodes

Thomas M. Gibson